

Games in Education

BUILD SOCIAL SKILLS & COOPERATIVENESS
ENGENDER FAIR PLAY & HEALTHY COMPETITIVENESS

INSPIRE PLANNING & EXECUTION

PROMOTE CONCENTRATION & OBSERVATION

EXEMPLIFY PLAYING TO WIN WITH GOOD SPORTSMANSHIP

...AND **TEACH** A WIDE VARIETY OF SUBJECTS WHILE YOUR STUDENTS THINK THEY'RE JUST HAVING FUN.



Brochure #1

Revised Edition

An Introduction / Nuts & Bolts

AN INTRODUCTION TO GAMES IN EDUCATION
NUTS & BOLTS - HOW TO USE GAMES AS CLASSROOM TOOLS
GAMES PLAYABLE IN THE CLASSROOM & WHY
GAMES FOR TEACHERS PROGRAM

Games Engage Students

Many teachers know that games are quite useful in the classroom. Some of them have been contributing their knowledge to the Games in Education newsletter that Atlanta teacher David Millians has been publishing for eight years.

THIS IS THE FIRST IN A SERIES

... a series that has developed by our culling the best of those newsletter articles. Developed by teachers playing games in classrooms and publishing observations about their usefulness.

SPECIAL NOTE

It should be noted that, as with any creative work, not all games are for all ages. Be sure to check for content!

PLANNED BROCHURES IN THIS SERIES:

1. An Introduction To Games In The Classroom.
2. Improving English skills with games in the classroom.
3. Teaching History and Social Studies through games.
4. Games to introduce and expand Math & Science concepts. These Brochures are Free to Teachers

GAMA will provide a copy to any teacher who requests it. GAMA grants permission to teachers to photocopy this brochure at will, for your own use, to give to other teachers, but not for sale. We ask that any teacher who gets a copy contact us. We'll add you to our growing mailing list of teachers who might use games in their classrooms, and we'll mail you future brochures as each is published.

THESE ARE LIVING DOCUMENTS

This brochure and the series will evolve over the years. We'll add more game reviews, including yours if you send it to us! You will gain a published work credit while benefitting other teachers. The point of this series is to share knowledge, the continually evolving knowledge of how to make learning more fun, how to engage students, and how to make your calling of teaching a bit more enjoyable.

SEE INSIDE BACK COVER FOR SPECIAL PROGRAM NOTES

Game publishers are naturally interested in teachers using games to educate. Some are willing to give you their games free, some are able to sell you games at wholesale prices.



GAMA CONTACTS:

For Publications:
GAMA Publications Request
80 Garden Center, Ste.16.
Broomfield, CO. 80020
Phone 303-635-2223 Fax 303-469-2878

Games in Education: David Millians email drakon@mindspring.com
Games in Education: Richard Martin-Leep email rmlgqc@aol.com
GAMA Executive Director: Mark Simmons email email ma.org



Each year in early July thousands of game enthusiasts gather to play at GAMA's showcase convention Origins®, the International Game Expo and Fair. Amongst over a thousand scheduled events are demonstrations of new games and introductions to a huge variety of games. Naturally, David Millians gives a seminar(s) on using games in educational settings. In the future, depending on teacher interest, the seminars roster may include more and more seminars & workshops on this key element of getting kids involved and enthusiastic about learning.

Contact GAMA's Executive Director for more information.



The objective of the Game Manufacturers Association is to promote the general interest of all persons engaged in the buying, selling, licensing, or manufacturing of gaming products. Naturally, if we can help you teach with games we all win!

AN INTRODUCTION TO GAMES & EDUCATION

By David Millians, Paideia School, Atlanta Georgia USA

Games are one of the greatest untapped resources available to classrooms today. So many people, born curious and creative, lose their excitement for discovery, imagination, and learning. Across the country, schools laboring to provide necessary education find themselves unable to inspire. Simplification and teaching to the lowest-common-denominator have become all too common. Games - board, war, and role-play - provide a host of opportunities for a classroom. A small investment for rules and supplies gives a teacher countless lessons in a form that delights students.

"When do we start?"

"Can I read the rule book?"

"Can I draw a map of that land?"

"Why did that happen?"

"I won!"

"What if I try this?"

"What are our choices?"

"I need your help."

"Am I allowed to write a longer story?"

"Here's the plan."

"Are you having us play these games so we'll do math?"

"This is fun!"

Games encourage reading skills. Even the most simple of rule books require an eighth grade reading level to understand them, and many require much more than that. In addition many players go off and research the era in which a game is set, which develops library and research skills.

Games encourage math skills. Rolling dice, consulting charts and tables, and calculating probabilities and outcomes are all common occurrences in these games.

Most importantly, role-playing games are a social activity. Having a group of friends to rely on during the tough years of adolescence is invaluable, and role-playing games build friendships that can last a lifetime.

Explore the wonders of Ancient Egypt!

Win where Napoleon lost!

Follow in the footsteps of Lancelot or Calamity Jane!

Investigate the Outer Solar System!

Climb the Himalayas!

Re-write LeGuin, Twain, or Clarke!

Individuals develop their imagination and creativity.

Cooperation and competition, unlike many traditional lessons, foster a range of social skills. Reading, writing, and math are part of or can be built into games with ease.

Specific games can be used to teach concepts and skills in social studies, science, and literature.

Art and music projects can be woven into a game-based curriculum. Games can be used within any schedule, though like any piece of quality curriculum they need time. A game can be used an hour or two, once per week, or it can be played in a regular class period over an entire week or more.

Teachers have used games for millennia, but we usually call them simulations. Transforming an entertaining game into an effective piece of education often involves only a few changes in vocabulary. Many excellent teachers are excited about the opportunities offered by games. As teachers experiment and ideas spread, games may have a wonderful effect on students' experiences in school. We all benefit.

"Last school year, a junior English teacher, Mrs. Shannon, approached me about a problem she was having with a student named Scott. Blessed with great creative skills, Scott was lax in completing assignments and was frequently absent from school due to migraine headaches. She knew that one of Scott's interests was role playing; he and some other grade sevens played games most days at lunchtime. Since she knew that I knew role playing games, she asked if there might be a way to put the game to some academic use. "At first, I simply sat in as a player in Scott's rather wild and winging it game. Gradually he and I talked and decided that I might try to lend some organization to the game. I introduced the boys to my long established campaign in the World of Greyhawk.

"Since that time, Scott's attendance has picked up tremendously, and his homework got done with some regularity. He is still a typical teenage boy, but he has shown some growth in responsibility and maturity. I have become the teacher to whom other teachers and his mother come to when they are having a problem with Scott. The rapport we established through the game has helped me to be a positive influence on his behavior most of the time.



Hey, we had this fun picture and some extra space. Here's a challenge for your students. GAMA's Executive Director, Mark Simmons, is in what was the American Wild West. Identify to town below the graveyard he's at. Hint- the famous gambler and dentist died in this town. Answer is on page 16.



rooms. We have listed some specific suggestions and requests below. Read them all! Teachers: Tell us what you are doing with games in your classroom. If you've received a donation from a company, we need to offer feedback. Lend games to other teachers. We need their addresses to send them this newsletter.

Publishers & Editors: What are you already doing to support classrooms or clubs? Do you send games to teachers? What are your questions? Engaging, clear writing is essential for teachers and students, especially for those who have little gaming experience.

Writers: You are one of the truly great creative forces in our society. What are your ideas? Teachers are requesting games with a huge range in historical settings. What is possible?

"Meanwhile, other teachers tell me that some of the other boys in the group have used the adventures to help them write character sketches and create adventures for their English classes. And since we play most days at lunch time, the boys have some place to go and people who count on their being there. There is no attendance problem. I monitor about fourteen boys in two gaming groups at the present time. "If I am ever assigned junior English again, I will do a section of fantasy literature. I think it would also be a positive influence on behavior." - Joseph A. Hackett

Games powerfully effect the learning of many students, and we hope that you will join us in exploring these wondrous possibilities. Please write with any ideas, questions, or opinions. Our opportunities will expand just as rapidly as we all contribute to bringing games into class-



Teacher David Millians has been Chairman of GAMA's Games in Education Committee for ten years. David teaches at Padeia School, Atlanta

Illustrators: Who can offer realistic images? Who can stretch students through their art?

Wholesalers & Retailers: In many ways, you are the front line. What issues do you see? How are you already supporting schools or clubs? If you know any teachers using games, please put them in contact with us.

Please let us know who you are.

The adventure continues.

The possibilities are endless!

GAMES & EDUCATION BROCHURE 1 NUTS & BOLTS

BY DAVID MILLIANS

Some of the richest and most intense learning occurs during activities and games. This approach to teaching and learning goes by many names: direct experience, hands-on-learning, experiential learning, and the like. Research and our own experience show that this approach to learning is both a powerful motivator and form of instruction for students of all ages and abilities. Once upon a time, it was difficult to find a well designed game to use to practice algebra concepts, explore environmental issues, or examine the use of plot and character.

Often the content of a game is irrelevant to the learning goals. Teachers use BAFA and other group games as well as many of the card games described here to guide their students to deeper thinking and a greater understanding of complexity. Other games like D-Day or Mission ISS provide instruction in specific areas of knowledge, history and space sciences respectively.

With a growing number of quality games in a range of forms, it is increasingly easy to find a game activity appropriate to a teacher's learning goals. The challenge is how to implement the activity in a particular classroom. With the variations in schedules, space, setup, assessment, and so forth, it is difficult to define a plan that will work for everyone. There are, however, commonalities for many educators. Using these and an appreciation for the broader spectrum of circumstances, we will explore the classroom use of a variety of games and game types.

Goals

It is important that a teacher have a clear goal for the game both in selecting and implementing the game. These decisions make it much easier to rework a game for a classroom and apply assessment tools.

Some games take little time to learn and play and can be kept at the ready. I keep at hand a selection of card and simple board and puzzle games. During math class I can turn to these for solo, partner, and small group play, using one game to practice addition and another to introduce my students to the use of variables. I have a series of games and other activities through which all of my students make their way. Others provide extra practice, and some are available for those students who finish an assignment earlier than her classmates,

Some games are much more involved. A board game, a war game, or even a roleplaying game might take several hours or more to play, require time for assembly of pieces or costumes, and benefit from rearranging your classroom or other activity space. I have had games run in twenty minute turns over a span of weeks and even months. This allows time for students to learn the game and to plan between sessions, but it also raises questions? How long do I really want my classroom like this? Where do I put all these pieces or costumes when not in use? We will explore these questions below.

So it is important that you consider the goal for a game activity.

- Is it to introduce, teach, practice, remediate, assess, or debrief?
- Do students need to play it for a particular amount of time or until they achieve some goal within the game?

- Does the whole class need to play the game at the same time, or must play be solo and independent? Do small groups and teams fit your requirements?

- How will you assess the outcome of the game for your students? Does the game activity feed into long term assessments along with lectures, readings, discussions, or other forms of instruction? Do you need to assess the game itself? Be sure you have a way to collect this data as the game proceeds.

Whenever appropriate, share your goals with your students.

Game Logistics - Making it Work in Your Classroom

Each and every game is different, and each teacher, class, and classroom has different expectations and requirements. I will examine the various types of games later. Here we will explore some generalities which can be used to fit a game to your classroom: time, grouping, accessibility, and assessment.

Time

Many teachers operate within a rotating schedule, teaching a different group of students every class period. Even if you have a self-contained classroom or very long class periods, you and your students will probably not want to extend most games or at least game session more than an hour or so. It's exhausting.

The length of class periods varies. Some schools rotate every forty minutes, and others might do so at close to two hour intervals. Many schools have different rotations on different days of the week or for special schedules and assemblies! You know the arrangement in which you teach, and we can keep this in mind as we outline some helpful guidelines.

- Know how to play the planned game.
- Define the time constraints for the game. How long does it take to teach to beginners, or can students jump right in, perhaps with you as their guide? How long does it take to play a meaningful session?
- Many wonderful games are variations on familiar card games or traditional board games. This knowledge can provide a quick entry into your activity.
- For extended games, spread turns over more than one class period. This can raise issues which I will address below in discussing accessibility.
- Have different sections of your class play against one another. Competitions between first and third period, for example, can lead to involved play.

Grouping

Most games are not designed to have as many players as we have students. This can be addressed in many ways, depending on the game.

- Basic card games, dice games, and even board games can be played as they are, out of the box, if you want the game to be a sideline to your primary instruction or as a supplemental activity. Once they have received any necessary instruction from you two to six students can play the game quite productively.

- If you have a more complex game or one you wish to use with your entire class, create teams of two to a dozen or more for play. Team members can share a hand of cards, a pawn on the board, or a side in the battle. You can create team mixes that allow students to support one another's learning. Use whatever level of agreement you think appropriate in order for a team to act. Unanimity can be a challenge to achieve, but be sure everyone feels she has a voice in the decision.

- Large teams, especially with long turns, can leave some students on the periphery or antsy. In many games you can assign a particular role to each student. This is especially true for war games, where each student can have her own command within the larger armies, leading to the fog of war and sometimes independent generals taking their own lead.

- You can also give players roles within their group. I have ruled that only one, designated student can speak to other teams. Another calls on team members to speak their opinions. Still another records the members' proposals and the group's final decision. In many traditional games, a banker exemplifies this sort of duty, giving players more to do, often when it is not their own turn.



Accessibility

If the students can play the game at their desks or tables, physical accessibility is less of an issue. If more space is needed or if the whole class is to play at the same time, greater planning is needed.

What space and divisions do you need to locate or create in order to implement the game activity in way what will meet your goals and the constraints you face? You may find it useful, up to a point, to rearrange your classroom for a game, adding clarity and definition to play. This can be as simple as labeling tables or corners of the room for certain groups or activities. You can go as far as moving furniture or even finding a different space, possibly outdoors or in a gymnasium or assembly hall.

You know best the resources and demands in your classroom and school. Not everyone has all of the options described here. Some classrooms and topics benefit from more structure than others. Perhaps you can team with another teacher. Perhaps third period has to be quieter than first period.

- Students will really like some game activities. This is part of what makes them powerful. It is important, however, to define for yourself and them when and where the game can be played. You do not want to be harassed to allow more time for the game than is appropriate, and you do not want them to disturb other classes, though some teachers will naturally envy the popularity of your classroom.

- Keeping your goals in mind, define the physical space you require. Your activity may benefit from moving tables or allocating a bulletin board or chalk board for game use, but be mindful of your needs when you are not playing the game. I sometimes mark group areas with tape on the floor or signs on different walls of the classroom. Any physical clarity aids large group game activities.

- If the game rules come in paperback and hardcover versions, get the hardcover version. It may be ten dollars more, but it will last so much longer than anything in paperback.

- Have copies of the rules you are using. All players may need to know or access some of the rules, and some of your students will want to read them much more thoroughly to gain better understanding or advantages in play.

- So your game will work with a large group, make extra copies of the game rules, playing pieces, or cards. You can get markers, pawns, and other components from other games.

- Laminate cards or other game components. This gives them much greater longevity.

- Hang the game board or map on the wall. This lets your students see the game more easily than on a table, and it does not necessarily have to be cleared away at the end of the class period or day.

- Use a photocopier or an overhead projector to display a much larger version of the game board or map. This allows your students to see the game activity much more easily.

- Pins or tacks can be used to mark positions. They stay in place better than pawns or cardboard pieces.

- If you have a small number of pieces to display vertically or horizontally, attach velcro to the board and to the backs of the pieces.

- Build or buy a wide rack of low shelves, much like what art classrooms use to dry students' paintings. You can carefully slide ongoing games into one of the slots.

Assessment

We often need to have some kind of assessment as part of or following a class or instructional unit. Define your assessment based on the goals you have for the game activity.

In many cases the game itself provides the assessment. The victory conditions for the game can be used as the measure of student learning. Who won? By how much? Can you measure the success through a measure like game money, points, the number of spaces from the finish line, and so forth?

If you are assessing your students learning based on the content of the game, as may be the case when recreating a battle and its issues through a war game or a card game, you may want to administer a test of your preferred format in order to measure the students' knowledge following the game activity.

Other Suggestions

- I gradually introduce games to my math group as the year goes by. After only a few weeks, they can independently play a growing number of games.

Implementing Specific Types of Games

Different forms of games bring with them distinct structures and logistical demands in a classroom setting. In truth, a novel card game may have more in common structurally with a board game, but for ease of recognition, we have grouped games by their most obvious type and can postpone discussions of game design theory for another time. Here we will address six types of games: cards & dice, board games, war games, roleplaying games, live action games, and play-by-mail games.

For each type of game, I provide several examples.

CARD AND DICE GAMES

"Is it luck or skill?"

Card and dice games are well known in our society and have enjoyed many uses in classrooms for many years. This familiarity allows you to introduce them more easily without having to explain some of the basics, though you may need to reiterate some of them briefly, so everyone agrees on how the role of dealer rotates, for example.



Sixth Grade Diplomats - In the game Diplomacy, the players act as diplomats for their country. Peace, trading, alliances, etc. are negotiated and played out between nations.

Barnyard Critters

Barnyard Critters is a game of identification, patterns, and grouping. Players must match cards by several qualities, including species and color.

Barnyard Critters plays best with early elementary school students, but my fifth and sixth graders enjoyed the basic game and then began developing more complex rules of play in order to challenge one another. A full game can be played in a few minutes or more.

- Use it as a breakout activity from a larger group
- Use it as one of several work stations focusing on categories, patterns, and groups.
- Have older middle grade and upper elementary students play it few times and then design their own, more complex pattern games. Point out that many traditional card games are pattern and grouping games.

Once Upon A Time

Once Upon A Time is the game of fairy tales. Cards depict traditional story elements as characters, items, places, and events. Players draw and discard, attempting to play onto the growing story, if possible, in order distribute their cards and win the game. Kids of all ages enjoy this game, and they are only limited by their imagination and ability to work new components into the collective story.

- Have a group play the game, perhaps a few times if necessary, and then each student writes his understanding of the story in fuller detail.
- After playing the game, challenge your students to make up their own story card game in a different genre. I've gotten games based on African tales, mysteries, and Dr. Seuss.
- Turn a game story into a skit or play.

Black Death

Black Death is a wonderful game about a grim subject. Players essentially represent pathogens and vectors as they spread across late medieval Europe. The game is quick to learn and play, but it can be used with students of any age and experience.

I used this game as a starter activity about the Black Death and its effects on European history. In addition to the map which comes as part of the game, I hung several large poster maps of Europe in the classroom to show various aspects of the period. I divided the class into six teams of four or five players, each team representing a potential plague. The students quickly added on their own colorful team sign boards and even facial scarring makeup in the case of one group.

It takes longer to play with teams, but this gave each group time to observe and plan their next moves, and it allowed me to direct their questions as they began to form through the course of play, I needed to occasionally clarify a rule, but otherwise the game tended to proceed smoothly.

For the next day, each student was assigned to write a paragraph, a tight paragraph, about the game and its parameters.

- What was your team's strategy?
- What led to victory?
- Was the game realistic or not?

We took the time to discuss the game, especially its depiction of the spread of disease.

From here we proceeded with lectures on the reality of disease in fourteenth century Europe; spread and mortality rates; writing journals from the point of view of a Levantine sea captain, a monk in middle Europe, or a young noble England; and a visit from a local health official to discuss and even view some modern pathogens! As we examined each new aspect, my students were able to refer back to the discoveries made while playing the game.

You could combine this game with *Infection* and really generate some interesting explorations of diseases and other maladies.



HAPPY STRATEGISTS

BOARD GAMES

"How do you win?"

Board games are a familiar form, so compared to many other types of games, they are quicker to teach and play. Many board games are based on popular forms like Monopoly or Trivial Pursuit.

Dino Hunt

Kids love dinosaurs! Players or teams travel back and forth along a simple timeline, as they compete to capture various prehistoric creatures, primarily dinosaurs, and send them back to their futuristic, rival zoos. In general larger or more spectacular creatures are worth more points.

The number one component of this game are the creature cards. Each depicts and describes a species of prehistoric creature in detail. These fact cards themselves can be removed from the game and used in many ways to investigate dinosaurs and their temporal companions. Just playing this game is sure to generate loads



There is a wealth of board games available that are suitable tools for classroom use.

of questions about ancient fauna.

- Play the game or use some other means to introduce students to the variety of information contained on the cards. Then conduct a quiz show in teams to give your students a chance to demonstrate their mastery of the material.
- Group the cards by geological eras and have students look for patterns in the evolving forms of the creatures.
- After a game, have the students complete a writing exercise in which they convert the play of the game into a smooth story, including all of their ups and downs, victories and disasters.

Journeys of Paul

I used this game as part of a Sunday school program. When it came time to examine the New Testament, the places and names were just too foreign for my students to appreciate. This game gave them an immediate sense of the geography involved in the travels and letters of early Christians, and it drove home many of the challenges faced by an aggressive but suspect group at that time. It led to many discussions and projects.

- Have students compare the challenges facing the early Christians and their leaders with those faced by young people or leaders today. This can be a discussion or a writing assignment.
- This game includes a beautiful map, as fine as or finer than anything from National Geographic, covering the eastern Mediterranean Sea from the Levant to Italy, from North Africa to the Black Sea. Towns, roads, provinces, and physical features are displayed in wonderful detail. Use the map for geography lessons of many kinds. For example, students can look at the distribution of cities related to mountains and rivers.
- Have students attempt to play the game in a way to parallel the journeys of Paul as exactly as possible, earning points for doing so, even if they do not complete the regular game's victory conditions.



VICTORY !!

Moonshot

This is a complex boardgame in which players compete to complete the infrastructure, technology, and payloads to triumph in space race. It accurately reflects the issues and challenges of this tremendous historical undertaking.

I group my students into teams to play this game. They quickly adopt nationalistic, even jingoistic, language, as they scramble to have the right stuff. I extend the game over several weeks, using the time between game turns to examine the history and science behind the game. We listen to President Kennedy's speech and read portions of astronauts' journals. We explore the physics of payload trajectories and lunar orbits, the chemistry of rockets and moonrock.

This game could handily introduce an entire study of space sciences. You could also play it at the end of such a course.

Technopoly

In Technopoly players try to secure the most lucrative high-tech contracts. Some pay off sooner than others, and all of them expire at some point. The board for this game resembles that for Monopoly, but it is more complex, for the path of play includes loops, and the playing pieces can reverse directions. The contract cards provide just enough information to whet the players' appetites, soon leading to interesting questions and discussions.

- Have different sections of the same class - second, third, and fourth period - play as large teams to best the others. I recommend hanging the game board on the wall for easy viewing. You can lightly tape the pieces to its surface.
- Have teams compete within a single loop of the game path. This will focus your students on a specific segments of modern industry like computers or military.
- Before, during, or after introducing the game, have your students research the companies and products appearing in the

game. This research will serve a different purpose, depending on when in relation to playing the game they do it. Done beforehand, it will inform their activities in selecting promising contracts. I have had them do basic research any time they want to gain a contract. This slows play, but it makes it much more rich. Finally, once they have played the game, students are often eager to research the real high tech industry.

WAR GAMES

"Are you the next Alexander or Sherman?"

In some ways, war games are a form of board game, but they tend to involve play across a broad area, rather than the linear path of most board games or even the highly structured moves in chess. In their roles as commanders, diplomats, or national leaders, players have a great deal of flexibility in how they apply their forces and moves. This makes for dynamic reenactments, but it also makes the game somewhat harder to teach and play. Any war game could in theory be used to expand students' knowledge of the conflict depicted, but some games are much more accessible and therefore appropriate.

It is important, as with any game, to know yourself how to play. Don't worry about being familiar with every minute rule or rare possibility. You can explore these with your students, should they arise. Some students, especially older ones, will want to dig into the rules, some seeking advantages in pay, others simply curious. Let them explore!

D-Day

This game and its board covers western Europe and clash of forces along the coast of France and the Allied drive into Germany. A great deal rides on players' initial assumptions about their opponents plans and initial setup. A miscalculation along the Atlantic Wall can affect the rest of the game. The rules are relatively short and quick to learn.



Role Playing games involve students in social situations, learning to interact while practicing alternate points of view. In this photo students at a neighborhood school share a live action roleplaying game set in China.

This game is designed for two players, though, of course, I usually play it in teams with my students. I give each student a command within the army of one side or the other. Some might control only a single unit, others several units. This makes players very protective of their pieces and increase the fog of war.

- Analyze the game board with your students. How would you have set up your units differently? How does the geography affect the strength and play of units? What is the effect of air power? How important are cities?
- Have your students find images from the war in books and on the internet. Photos of Normandy or Berlin at the end of the war will deepen the impact of the game.
- After play, have students write a history of the conflict. You can compare it to portions read from Stephen Ambrose's *Citizen Soldiers*.

Midway

This game reenacts this early sea battle of World War Two on one main board and several subordinate game boards. These help players to organize their ships and planes, and they add to the uncertainty both sides experienced historically. Each playing piece gives interesting details and a silhouette. The game manual provides even more information about the context, issues, personnel, and technology of this turning point in the War of the Pacific.

Like many war games, the board and other materials provide excellent sources of information, which can be used independently of the game itself.

When I run this game with my students, usually as part of a study of World War Two or the Twentieth Century more generally, I split the class into two teams and give each student a specific command, sometimes a ship or group of planes. I have taped the game boards to a large table and also hung additional maps, charts, and posters on the walls around the play area.

- Pause the game regularly, especially in initial turns, and have players write a cogent paragraph describing each one's recommendation to their superiors. At that time or after the game has concluded, go through these predictions and plans with them. How accurate was their information? How well would their plans have actually worked? Why were some ideas used and others rejected in the actual game?
- Add a diplomatic aspect to the game. You can have some students play the role of officials from the USA and Japan, or you can have all of your students alternate between commanders and diplomats. Have them research their issues and goals of their side and then debate their reasons and methods for gaining and holding power in the Pacific Ocean. You decide who made the stronger argument and add or subtract points from one or both teams in the following game turn.
- After playing the game, a group of students took what they had learned and developed a broader game of the Pacific war. They then invited the class to play. The game needed some heavy modification, as we played, but it was a wonderful exercise in research, geography, diplomacy, mathematical statistics, and historical might-have-beens.

ROLEPLAYING GAMES

"My guy, the biologist, he's going get a sample."

Roleplaying games are a wonderful opportunity to involve students in storytelling. Unlike Live Action Games, which I describe later, all of the action takes place in words, the more descriptive the better. Especially as Language Arts activities, roleplaying games can be played purely for the creation of stories. In addition some game settings are rich opportunities to explore topics in history and science.

Implementing a roleplaying game in the classroom involves some planning.

- What is the goal for the story, and do the students know the goal at the beginning of the game? Sometimes the goal is simply to survive or to reach their destination. Others can be far more complex, especially if the story is a mystery or involves elements unknown at the start of the tale.

- Will you create the characters, or will the students? Creating them yourself takes time, at least ten minutes per student, but it gives you much more precise control of the game. On the other hand, having your students create their own characters within careful parameters allows them to practice and display their own imagination.

- How long will the story run? If you want to have three hours of story, probably the minimum time needed to allow most every student to have some involvement in the tale, and you're going to play for thirty minutes during each class, then you need to have at least six days to play. You don't have to play six days in a row. You can play once each week for six weeks. Just be sure to plan your time, and be ready for the kids and you to wish you had more time. Roleplays are very involving.

Roleplaying allows students to experiment with their personal voice and express themselves, revealing unexpressed strengths, concerns, and questions. Watchful teachers can these revelations.

Blue Planet

Blue Planet is a wondrously imaginative science fiction roleplaying game set in the near future. It supposes a complex history for the next two centuries and discovery of Poseidon, an Earthlike but ocean-covered planet in a neighboring solar system. On Poseidon all of the virtues and vices of humanity intersect, raising a variety of social and ecological issues.

The rules are realistic and clear, though like any set of roleplaying rules, they can appear daunting. Read the short overview and concentrate only on the rules that apply to the story you want to tell. This game has good reference charts, so look them over and know where they are in the manual.

I've run Blue Planet primarily to introduce or explore units on biology, ecology, evolution, modern technology, social change, and zoology. The setting includes many interesting surprises and issues. The game includes several scenarios, and you will soon be creating your own challenges. In a short time my students grapple with their own assumptions and knowledge. They come back hungry for more.

- The Moderator's Guide includes many short, introductory scenarios. Use them! I particularly like Aborigine Specimen on page 25, Sticky Business on page 34, Compromising Circumstances on page 40, The Menagerie on page 75, and Holy Waters on page

98. Combine any of these with the Noonbird's unusual and hilarious intelligence gathering! Keep the characters very basic.

- I have also used the basic game rules to lead my students through some basic maneuvers in space or deep below the seas. Simply arriving safely can be a tremendous challenge.
- After your students gain a little familiarity with the flora and fauna of the alien world, challenge them to imagine and describe the possible life in various other extraterrestrial environments: hot & dry, almost completely frozen, or exotic atmospheres. The speculative biology can be taken to great depths and prove wonderfully insightful.

Heroquest

Heroquest is a simple, flexible roleplaying system attached to the mythological game world of Glorantha. You can use the rules with or without the setting provided. Students are fascinated by mythology, and children all have a need to test and define their power in the world. What better way than as heroes? The game system is so adaptable, though, that you can use it to define the characters and challenges in any setting, so it is available for any genre of literature - historical fiction, horror, mystery, science fiction, western - as well as mind excursions or Gedankenexperimenten in any field, astronomy, biology, mathematics, space science, Have you ever read Holes, Johnny Tremain, La Morte D'Arthur, or The Number Devil? Have you ever seen the movies 2010, The Incredible Journey, or Time Bandits? Let your students live it viscerally, and they will learn remarkably.

- Use the world of Glorantha and its grand, detailed realm of myth and adventure! Have your students rescue their fellow Bison Riders from the Mistress of Disease. Take them to a grand tournament of knights near the contested border of Safelster and Seshnela. Seek the lair of the dragon!
- Heroquest uses a system of ability and challenge ratings, and this system can serve you well for any roleplay situation you need to create. If your students are going to seek the Northwest Passage, they need to have abilities like Outdoor Survival and Sailor. If they are going to survey the coast of Antarctica, on the other hand Arctic Survival is good, as are various scientific abilities and vehicle handling skills. These ability ratings mean there is some measure of their potential. They can't simply do anything, but you also have an opening to give them information or a new chance to complete their goal.

LIVE ACTION GAMES

"Never have a suffered a greater honor than to be in the presence of one whose wit and taste are so equally magnificently moribund!"

Live action games tell their stories in character. If roleplaying games are often like stories told by a group, a live action game is a group of stage actors with characters but without a script. Armed with goals and their own creativity and dressed in whatever elements will evoke their characters, they attempt over the course of the game to enjoy a lively story and arrive at a conclusion that is dramatic, if not successful. There are some rule systems and examples out there, but most live action have relatively simple rules and are still written mostly by these who present them.

I have played in live action games which run for several hours at a time and are complete. In my own classroom, I have a major live action game every year, based on our theme of study. The game activity runs ninety minutes at a time on most Friday afternoons, though my students eagerly research and push their goal during the time between turns. Over the course of many months my students get our topic under their skins. They live it. That's why they are called live action.

- My live action game of ancient Egypt is called Tut and centers on the royal court of the boy king made famous by Howard Carter in 1922. All of the characters are historical. I wrote them myself, giving each goals, resources, and power. Every player needs things or help from other players in order to accomplish his goals. Each player has more goals than he can possibly accomplish during a single school year of play. My rules are simple, confined to annual agricultural production, the cost of shrines and temples, and rock-paper-scissors for any battles. How do we know how much to get, if we trade? Just see what the market will bear, Your Holiness.
- My live action game for ancient China, Zhongguo, takes place during the seventh century rule of Empress Wu, the only woman in Chinese history to have actually taken the throne as a full, reigning emperor. As in Tut, my students portray various historical officials and courtiers of this tumultuous time. Trade and international relations were complex during the T'ang Dynasty, so the rules underpinning the game have several more pieces, covering markets, religious conversions, and so forth. The machinations gain in complexity and severity as the year progresses.

Company contact information for the games mentioned is on page 15.

Editors Note about Processing:

It is very important for the Teacher to facilitate the *Processing* in the classroom. A Game is merely a tool to provide the learners with a common experience which they can then discuss. That is worth reiterating; the game is a common reference; the learners have all shared in the experience of having played the game together. Once the learners have a common experience, the discussions that follow, help the learners to speculate, theorize, draw conclusions, explore many directions, and *Process* the experiences into meaningful lessons.

Lessons learned through play are more meaningful and stay with the learner longer than through some *traditional* classroom practices.

JOLLY LITTLE WARS

AN EXAMPLE OF GAME APPLICATIONS

by David Millians

The Smithsonian Series, published by Avalon Hill, is a favorite source of material and curriculum for me as a teacher, and my students love to play them. Each game in the series depicts an important military clashes. Avalon Hill's Smithsonian Series of wargames examines several important, historical, military conflicts with attention to both their complexities and ease of play. Each game stands alone, though many basic rules are similar from one game to the next, and mastery of one allows even easier play of the others. I am familiar with D-Day and Midway, both of which I have used with students. Each has proven its value as a general classroom tool and in individual, remedial work with students trying to strengthen their problem solving abilities, spatial skills, and math facts.

WHOLE CLASS ACTIVITY

I used D-Day and Midway as part of a year long study of World War Two with fifth and sixth graders. In addition to lectures, readings, research projects, literature classes, other simulations, and more, we played these two games in order to better understand both these particular battles and the broader and more complex issues of the war as well. I had but a single copy of each game, my schedule was organized in fifty minute blocks, and I faced a crowd of thirty bright but inexperienced fifth and sixth graders.

I chose to set aside always valuable display table space for the game boards. With only one copy of the game in hand, I divided my students into opposing teams, representing US and Japanese forces in the central Pacific Ocean in 1942 and Allied and Axis forces in Europe in 1944. Naturally even these decisions on my part generated opinions and discussions. Even more followed when I assigned each student herself to a particular, historical commander. Most every student did more than the basic, assigned research on his alter ego. A little type casting here went a long way toward establishing an appropriate tone during the game itself. I usually give the highest leadership positions to the class leaders, though I sometimes alter this to give someone new a chance to practice these sorts of skills. In general younger students received lower commands, again creating a more realistic tendency on everyone's part.

Before playing either game, we familiarized ourselves with the circumstances leading to the clash. I took a few minutes to outline the basic mechanics of the games and then assured them that they should simply make their decisions and that I would help with the translation of these ideas into events on the game board. This allowed for quick play, for the rules were not hard for an adult to master quickly. My students enjoyed giving orders, and the transformation of their ideas into actual events increased the sense as we played of the fog of war.

We played a few rounds of the game at each sitting, if sitting is really an appropriate word, for almost every moment of play saw students moving to examine the battlefield board, weather information, and recent movements of forces and huddling to confer on future plans. Students remonstrated with other commanders and grumbled or crowed with delight at an assignment or

success. Any and, as it turned out, most every plan or movement produced rich discussions. Even the map and the simulation of elements like weather lead to passionate examination.

Naturally we followed these activities with further explorations of the battle and its place in grand events of the Twentieth Century. Young admirals and generals proved eager to absorb the information of a lecture or homework assignment, for the issues were alive and meaningful for them, and they all felt able to ponder our concerns. Readings and movies followed, and I was pleasantly surprised by their ability to analyze these media and the ways in which they had accentuated or modified the history which they depicted.

All in all these games provided my students with a rich and powerful window on history and society.

INDIVIDUALIZED INSTRUCTION

Like many teachers, I also tutor individual students. I make regular use of games and the student's own interests as a media for best tackling whatever skills or issues are most limiting that student's school performance. Many types of games allow me to break through the frustration or mundaneness of typical school work. Card games, board games, war games, and adventure games all require and strengthen in various ways language and math skills, problem solving, planning and organization, and much more. Chosen and used carefully with remedial students, these activities can rapidly increase abilities in the targeted areas.

I have used D-Day and Midway while tutoring two different, fifth grade boys, Isaac and Donald, in problem solving abilities, spatial skills, and math facts. Both had struggled for years in these areas, and both had anxiety clouding their ability and willingness to do further work to address such gaps as were increasingly handicapping their performance in other academic work as well. Both boys were also fascinated by history and warfare, a not uncommon trait in children of this age.

The wargames afforded several opportunities. They wanted to come work with me, for they saw pleasure in what we were to do. I spent significantly more time on the game mechanics than I had with my whole class activity. Learning the regular rules, mastering the complicated but linear language of the rule text, and beginning to plan strategies were all valuable outcomes of this introduction. The play of the game itself required regular exercise of arithmetic skills and both short and long term planning. They were eager to play more than once, and their confidence and skill grew dramatically, and all of this carried into their more formal, academic work with me as well.

It is a luxury to have individual time with a student, and it is a pleasure to see them so quickly warm to their greatest challenges. The fulfilled the adage that "It's not whether you win or lose, but it's how you play the game." Learning by doing, they strengthened their weaknesses and expanded their horizons.

Let the games begin!

STUDENTS AS DECISION MAKERS

By Jeff Kingston

As a teacher, I provide access to a medium by which some of our students get the chance to make decisions and live with the decisions they make. The medium? Why, simulation games, of course.

So often in education we fail to allow our students to make decisions and most teachers will agree on this one point: young people thirst for the chance to make decisions!

In fact, they crave it.

Nothing is real until it is experienced. Now understand me on this: I am not talking about what so many educators label "critical thinking skills." Keep it simple. Get students to make a decision. Choice A or Choice B. Live with it. Wear it for a while. Then move on to the next decision.

Sound familiar? It should. What I have just described to you is what many of us have come to know as simulation gaming, be it a role playing game or a board game. Gamers make hundreds of decisions within the course of a single game. Yet as educators, we cringe when our well educated students fail to make good decisions, both in and out of school, and all we seem able to do is shrug our shoulders and say, "what a shame". Why do we say this? Did we ever take the time to teach or reinforce the idea of a student making a decision, other than on a quiz or exam? Did we allow them to make bad decisions and give them the opportunity to live with them?

Think back to the last game you played. Did you at some point in the course of play make a bad decision? Of course you did! You probably had your share of good decisions as well. Yet regardless of your decision, the game progressed onward and you had to continue play.

So what's the point? The point is that simulation gaming allows young people the opportunity to make decisions, good and bad, and to put all of these decisions into a format filled with goals and objectives. Sounds like pretty familiar stuff to me. What about you?

The Play Is The Thing. Can students learn from making decisions? Fashion it this way: Can a player develop a solid strategy for later successes in a game based upon earlier failures? I can only speak for myself that a good deal of my successful game strategies were derived from the ashes of my failures.

Can students learn from failure? Perhaps we should look to sports for the answer. After all, it too incorporates a "game" format.

In baseball, if you hit the ball safely only 33% (1/3) of the time, you are a success. What about the times a player fails? Does he learn from previous experience? Does he remember chasing an outside slider when behind in the count? The next time up he doesn't chase the slider and gets the pitch he wants. The next thing you know the ball is bouncing off the centerfield wall and our batter is standing on second base!

The same is true in gaming.

Bad decisions may have been made in haste. Perhaps previous knowledge provides clues to future direction. Cause and effect are noted, weighed, and applied to the situation at hand. Previous poor choices give way to good ones as the game progresses.

There are no money back guarantees in life and simulation gaming reinforces this while at the same time providing an environment to experience the feel of success and failure.

So there you have it. Students need the opportunity to make decisions in a safe environment, one that provides the modeling for more important decisions they will make away from the table.

Jeff Kingston is a high school teacher in Atascadero, CA and teaches at West Mall Alternative School. He began historical simulation gaming in 1968 and has incorporated it into the school's curriculum.

CLASSROOM GAMES

By David Millians

Teachers have been using games in their classes for millennia, for as long as there have been teachers. Simulations, reenactments, role plays, military games, and the like have always been valued tools in many teachers' bag of tricks.

Much of the richness of these tools has been lost in the modern classroom. State teacher education programs rarely encourage the creativity necessary for quality teaching through games and other equally powerful techniques. Teachers often find themselves in schools that have been leveled to the lowest common denominator, babysitting students until they can graduate. Traditional published games and simulations cater to this diluted, simplified environment.

Many teachers do lead exciting classrooms, but individual innovation or even variance requires constant effort. We hope that this newsletter will support teachers, parents, publishers, and students.

One way to open up the modern diversity of published games, still mostly locked in the entertainment field, is to point out their similarities with what has already gone before:

* Board Games have been a valued and documented teaching method for centuries, dating back at least to Sumerian puzzles in clay and appearing in many forms today. Though often played for entertainment, the value of these games was recognized. Once maligned, chess may be the clearest mainstream example of the value of these games.

* Card Games have grown from divinatory objects and simple gambling tools into a rich array of puzzles and challenges. These games and activities brim with mathematics and other logical skills. Card games, many created with beautiful imagery, now contain themes from literature, science, history, mythology, sports, and beyond.

* War Games have been developed in many forms to train soldiers and leaders. They are essentially refined board games. It is only in this century that they have also become strongly recreational.

* Role Playing Games and Live Action Games actually tap into the oldest forms of these traditions. While entertaining, storytelling and drama have always been powerful cultural elements, teaching the young the elements of their people, past, and opportunities. From brief examples to Model U.N. projects, we are already using these.

We are limited only by our imagination.

LITERATURE REVIEW OF GAMES & SIMULATIONS

This is a list of research and other articles about games and simulations used in education. It has been compiled by David Millians. A longer version is available at www.gama.org.

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