

From the Los Angeles Zoo to the Classroom

Transforming Real Cases via Role-Play into Productive Learning Activities

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How many times have you encountered an interesting article concerning a real case in a journal, magazine or newspaper and wondered how you could incorporate it into your classroom as a learning tool? This presentation explains how to transfer a relevant written article into a learning activity involving active role-play. It can be used to help your students:

1. Understand the relevance of the subject matter
2. Develop critical thinking skills
3. Learn to generate multiple operations and effective solutions
4. Humanize science and discover its importance in everyday life.

After briefly reviewing role-play as a teaching method, we share our model role-play activity, along with various strategies and techniques that we have used in our classrooms which have proven effective in achieving the above objectives. In this activity, we have followed Dr. Jared Diamond's article, "Playing God at the Zoo," which was published in *Discover Magazine*, March 1995. In the article, Mark Goldstein, Director of the Los Angeles Zoo, was faced with several dilemmas regarding animal care which required the assistance of various experts such as veterinarians, animal rights activists, and lawyers to arrive at feasible solutions.

The Role-Play Teaching Approach

Role-play, as a model for teaching, has its roots in both the personal and

social dimensions of education. It attempts to help individuals find personal meaning within their social world and to resolve personal dilemmas with the assistance of social groups. In social dimensions, it allows individuals to work together in analyzing social situations, especially interpersonal shortcomings, and in developing decent and democratic ways of coping with these situations (Joyce & Weil 1986). While students play, act and mimic in a class activity, they learn different aspects related to a given topic about problem-solving, as well as about exploring their own feelings, attitudes and values (Cherif & Somerville 1995).

This specific role-play activity has the advantage of realism and resembles a "case study" approach to teaching. Case studies are commonly used as methods of instruction, for example, in the disciplines of law and business (Cage 1996), as well as in integrating science with community and global problems (Robinson 1993). Most often, a real-life situation is discussed and analyzed from the standpoint of the discussant's opinion about the solution to a problem. The distinguishing feature of this role-play is that not only do students analyze the problem and the solution, but they personally experience the complexities of arriving at a conclusion to a problem by assuming a particular perspective of their own and using persuasion to influence the outcome. It is not until the students have explored the possibilities of resolving the problem that they become aware of the "real life" solution. At this point, students already invested in their particular perspectives will be able to compare their "role-play" solution with the "real-life" one.

The Role-Play Educational Activity

This role-play activity is divided into four stages: Preparation for the Activity by the Instructor, Classroom Preparation, Enacting the Activity, and After the Enactment.

Stage I: Preparation for the Activity by the Instructor

1. **Selecting the Right Article.**
The article selected in this kind of activity should:
 - (a) Deal with real-life situation or case study
 - (b) Pertain to the course or subject matter
 - (c) Be researchable by the students in the school or public library
 - (d) Be a controversial issue and/or have potential for multiple options.

Articles of this kind can easily be found, for example, in *Discover Magazine*, *Natural History*, *National Geographic*, *Audubon Magazine*, *The Amicus Journal*, and *The Atlantic Monthly*. They also can be found in literature developed by the National Issue Forums (NIF) and Environmental Issue Forums (EIF). Major newspapers, such as *The Chicago Tribune*, often run a series of articles about a given issue that can be used in an activity such as this.

2. **Identifying the Main Issue in the Real-Life Situation.** The teacher reads the selected article and then identifies the following:
 - (a) The main problem with which the article deals
 - (b) The main characters who are involved in solving or dealing with the problem

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- (c) The consequences that could result if the problem is not resolved effectively.

For example, in our selected article, "Playing God at the Zoo," the problem as stated by the author (Dr. Diamond) is whether or not a teenage chimpanzee named Nan, living in an overcrowded and under-funded facility, should have an abortion because of the lack of zoo facilities. No one had ever performed an abortion on a chimpanzee, so there was no way to be sure if the operation would be safe. The article also raises other concerns that can be used to guide the discussion in the "after enacting" of the role-play activity: Should the zoo administration develop and practice policies based on the belief that "zoos are primarily places to display animals to a curious public" or as a more humane place, where decisions are based upon "what's best for the animals." What is the advisability of keeping dangerous animals such as the "endangered" bull elephants? How can the zoo minimize dangers to animals and to visitors, while maintaining a living space that is as natural as the wild? Should large predators be given prey to hunt within their enclosures in an effort to make their conditions as natural as possible?

3. **Helping Students Start their Research.** Teachers who decide to use this particular role-play activity should call the zoo in their local area and ask for free literature, data and statistics for the students to use as a starting point in their research; or the students could be provided with a list of telephone numbers of local zoos, animal-rights organizations, and veterinary hospitals that the students could call to gather more information. This would also be a good opportunity to introduce or reinforce the availability of information on the Internet and/or at the library reference desk.

Stage II: Classroom Preparation

1. The students are introduced to the situation by giving them a brief outline of the problem, followed by a short discussion about it.
2. During the discussion, the instructor should emphasize the seriousness of the problem and the urgency of finding a productive solution.
3. The students are asked to collectively identify the professionals or individuals that are required

in order to effectively arrive at a feasible solution. They are then questioned on the rationale behind their choices. This forces the students to think and reason out the situation, rather than just make vague or irrelevant choices. Once the problem has been identified, along with the professional help needed, the students can then be guided into thinking about professional roles that have not yet been mentioned, by posing appropriate questions. For example: "Do you think there could be some legal problems that will require us to include lawyers in our panel?" or "Do we need public awareness and support? Who should be included to provide that?"

4. The following list is an example of characters identified and described by students in one class—For example, the students might suggest that the Director of the Zoo utilize the following experts in his search for a solution:
- (a) *Zoo Veterinarian*, Dr. Eli Fant, who is responsible for the physical health of all animals at the zoo.
 - (b) *Biologist from a local school or college*, Dr. Veronica "Ronnie" Oserus, who has been involved for many years in a research activity to discover new genetic markers for common diseases.
 - (c) *President of a local bank*, Mr. Chip Ansey, who has been a prominent fund-raiser for the zoo.
 - (d) *City Manager*, Mr. Thyman "Tye" Garr, who has the responsibility of bringing economic development to the community. The zoo is a major attraction that generates revenue for the city.
 - (e) *Priest of the Archdiocese*, Father Katz, who has been involved with many medical ethics and human rights issues.
 - (f) *Citizen and Animal Rights Activist*, Mr. Willie Dye, who has fought hard to make sure that the habitats at the zoo are natural, to provide every animal the space, appropriate climate, and plant life needed for each to feel "at home."
 - (g) *Lawyer*, Ms. Penny Wize, who has been consulted on almost every occasion in which an animal has harmed a zoo employee or a visitor to the

zoo. She has the difficult job of advising the zoo director to balance the animals' rights with the rights of the people. The most important issue for her is safety.

5. Once the students have identified the different professionals needed for this situation, they are divided into several groups, each representing a specific profession. The teacher should identify a group leader for each team, as well as one student to represent Mr. Mark Goldstein, the Director of the Zoo, who will be responsible for making a final decision that is based upon the ensuing enactment of the role-players.

Stage III: The Enactment

1. The members of each group meet for about half an hour to formulate the arguments and strategies of the final presentation.
2. The students are seated in such a way that they are able to address each other. Most suitable, here, is a circular arrangement, so that the teacher is also able to assess each student's participation.
3. At the beginning of the discussion, the Director of the Zoo states the problem and explains the dilemma he faces. In this case, it is whether or not the teenage chimpanzee should have an abortion. The important fact to be considered here is that the zoo has limited facilities and resources. Also, no one has ever performed an abortion on a chimpanzee, so there is no way to be sure if the operation will be safe. The Director of the Zoo also emphasized the importance of finding the right solution, because Nan (the chimpanzee) is "a female of prime reproductive age from the small captive breeding population of a species endangered in the wild" (Diamond 1995, p. 80). He also informs the members that the last two pregnancies in this crowded facility, both results of the failure of contraception, had ended in one stillbirth and another dying within a week of birth (Diamond 1995). (Thus, he had legitimate reason for this concern.)
4. The groups take turns addressing the issue from their perspective. Students should be instructed to take notes on the points made by the other groups during their presentations.

- Then, the Director of the Zoo opens the meeting for debate and general discussion involving the different perspectives, in order to generate suitable options.
- After the most suitable options are pinpointed, they are rediscussed and categorized according to their applicability and merit.
- At the end of the meeting, the Director of the Zoo selects one main solution and two other alternatives that deal with the situation by comparing the pros and cons of each option.
- Prior to the next stage, a general consensus should be reached about the main solution.

Stage IV: After the Enactment

- After the students arrive at the most reasonable solution resulting from their brainstorming session, they are given the "real life" solution to the problem. In the case of the Los Angeles Zoo, Nan's pregnancy was allowed to take its natural course. [It was reasoned that the actual issue was lack of adequate facilities and resources in the crowded chimpanzee exhibit, and this long-term problem could be solved by raising millions of dollars to build a much larger exhibit (Diamond 1995).]
- Students are asked to compare their own solution to the actual real-life one.
- If the two solutions are different, the students should be asked to analyze both of them, choose one of the two, and justify their choice.
- In a follow-up written assignment, each student is asked to state whether he or she agrees or disagrees with how the problem was solved in the real world, and to justify his/her opinion. In this assignment, the students should document the proceedings of their own panel discussion and then compare their arguments with the real one.

The "after the enactment" analysis and discussion are very important for students' cognitive and social development (Cherif & Somervill 1995). In the role-play, when the acting is over, both the teacher and the students should explore how and why each person reached his or her decision, what the sources of resistance were, how they affected the final decision, and whether this situation could have been approached in different ways (Joyce

& Weil 1996). Therefore, concerns such as those raised by Diamond (1995) should be revised and discussed.

Babylon's Zoo

In one of Dr. Cherif's classes (Biology: The Living World Around Us), students were equally divided among

the three following options: abortion, building larger facilities for the chimpanzees, and lending Nan to another zoo. The second proposal was further developed throughout the discussion to be the best solution. This group first proposed that a loan be obtained to build new facilities. This loan would be paid by administering a fee or increasing the fee for visiting the zoo


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and, at the same time, a community of volunteers would be formed to aggressively ask for donations nationwide. The objection that was raised by the Director of the Zoo and the city manager was that the zoo lacked the physical space for any new facilities. But, before the idea died, two members individually suggested a new and radical proposal to save the zoo and Nan, and make the city famous!

This proposal involved rebuilding the primate facilities as a multi-level complex, similar to the design of the Babylonian Gardens. After much discussion, the committee voted 23 to 5 in favor of the idea. The consensus was that the idea was innovative and possible, and their city would even become a tourist attraction. Furthermore, they rationalized that any financial institution would be glad to give a loan for this project.

For their final class creative project, the two students designed an architectural map of the zoo with multiple floors and two artificial waterfalls. Each floor was designed to host related species.

Alternative Approach

The following is an alternative approach that could be used successfully for this role-play activity. The students are divided into groups of at least 10 students, and each group works independently from the other groups. Three or four groups per class are manageable and thus may be the best choice. The members of each group select a Director. The Director guides the discussions wherein the main characters determine the professionals needed for dealing with the issue and assigns students to the various roles. Each group carries on its own discussions and generates the best solution to the problem. At the conclusion, all the groups gather together; share their generated solutions; compare, analyze and discuss all solutions; and select the best solution. Then, the real solution is introduced to the class and the students discuss it and compare it to their own solutions. Finally, a writing assignment is given to explore why or why not the real solution was the best.

Conclusion

In this role-play learning approach, we have transformed a real case situation into a classroom learning activity. In addition to learning the intended

concepts and principles, role-play enactment of real life situations promotes the development of critical thinking skills, and generates multiple options and effective solutions while humanizing science by discovering its importance in everyday life. It also promotes high levels of student involvement in the development of the learning process (see *The American Biology Teacher*, January 1995, pp. 28-29), as well as the development of teamwork, collaborative learning, and effective communication. Through this approach we try to help our students recognize problems of the time and develop the will and the ability to work toward their solutions by acquiring and using knowledge and skills, and their ability to observe, read, write, listen, research, discover, communicate, etc. By thinking about the welfare of all the living things around them, students discover that all things are connected.

Furthermore, today's global, multi-cultural environment requires people to work cooperatively, often as members of a team; successful teamwork requires collaboration and effective conflict resolution (Cherif & Somervill 1995; Gayford 1989). This role-play educational activity provides students with structural learning experiences that promote the development of these skills. The groups that are formed in the classroom distribute the workload and then gather the input of each team member. The contribution of each team member is recognized. Sharing responsibility is more productive than allotting a chore or assignment, and the demands made by peers are more persuasive than those made by the teacher. In this way, even the most resistant students will be productive contributors!

While working as a team, the leadership qualities of students may be recognized and developed. Students may also be encouraged to overcome their inhibitions in the process of working together, gathering information, and contributing to the formation of an opinion. As the team selects pertinent and rational arguments, and as the best options evolve, students learn the important faculty of decision making. This is a critical skill in later professional life! Furthermore, a certain amount of responsibility develops in the participant—the responsibility of doing a job well—and this imparts a sense of accomplishment. This gives the students a chance to analyze their own attitudes about certain situations, defining their own values, and developing their own personal voices.

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lems. *The Clearing House*, pp. 171-172.

Appendix 1

Assessment of the Role-Play Activity

Following are some examples of assessment criteria that could be included in evaluating the students' outcomes in this learning activity.

1. Subject knowledge and understanding of relationships between bodies of knowledge (Reissman & Rollnick 1990).
2. Handling information, including collecting, organizing and analyzing data. For example, the method by which members of a given group compile data and information, their cooperative efforts in putting the information together, and the efficiency of the groups in presenting and communicating the collected information.
3. Strategies for building rational arguments.
4. Generating alternative approaches, problem-solving strategies and solutions.
5. Team participation in the role-playing process. The participation of individual members should be assessed; it is important to encourage the participation of each member in the group.
6. Ability to generate warranted conclusions.
7. Ability to recognize and utilize useful data and information provided by other groups in the role-play.
8. Ability to evaluate alternatives provided by other groups in the role-play.
9. Willingness to listen and understand the other groups in the role-play.
10. Group performance: For example, how effectively did each group function? How might each group have functioned more effectively?

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