Stages of moral reasoning through which children develop, as researched by developmental psychologists Jean Piaget and Lawrence Kohlberg, are outlined in the introduction of this paper. The six stages are defined and exemplified by the moral issue of the value of human life. The developmental model, as it is argued, is suitable for instruction in schools for developing higher levels of morality in children by intervention challenging the student at one level of moral reasoning above that at which he is operating. The area of environmental education in particular appears as having appropriate content around which to design a series of moral dilemmas. Four dilemmas follow the introductory remarks. Each dilemma describes a situation involving environmental questions for which there is a series of questions leading to investigation of the moral questions raised. The dilemmas are entitled, "The Environmental Activist," "The Alaska Pipeline," "The Starving Country," and "Fast Breeder Reactors." The dilemmas raise questions about individual action vs. group welfare, environmental destruction vs. national crisis, feeding the hungry vs. acting against overpopulation, and radioactive danger vs. the need for energy. A bibliography on moral development and environmental issues concludes the paper.

(Author/KSM)
MORAL DILEMMAS
and
THE ENVIRONMENT

A series of moral dilemmas in the style of Lawrence Kohlberg, adapted to reflect contemporary environmental issues.


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INTRODUCTION

A number of learning theorists, and particularly the developmental psychologists Jean Piaget and Lawrence Kohlberg, have conducted research which suggests that the moral reasoning of children develops through a series of well defined stages. As outlined by Kohlberg, these are:

<table>
<thead>
<tr>
<th>AGE</th>
<th>STAGE</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-5</td>
<td>0</td>
<td>The good is what I want and like</td>
</tr>
<tr>
<td>6-10</td>
<td>1</td>
<td>Punishment-obedience orientation. Obey rules and avoid punishment.</td>
</tr>
<tr>
<td>11-15</td>
<td>2</td>
<td>Instrumental hedonism and concrete reciprocity. Conform to obtain rewards, have favors returned, and so on.</td>
</tr>
<tr>
<td>15-Adult</td>
<td>3</td>
<td>Orientation to interpersonal relations of mutuality. Conform to avoid disapproval, dislike by others.</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Maintenance of social order, fixed rules, and authority. Conform to avoid censure by legitimate authorities and resultant guilt.</td>
</tr>
<tr>
<td></td>
<td>5A</td>
<td>Social contract, utilitarian law-making perspective. Conform to maintain the respect of the impartial spectator judging in terms of community welfare.</td>
</tr>
<tr>
<td></td>
<td>5B</td>
<td>Higher law and conscience orientation. Conform to avoid self-condemnation.</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Universal ethical principle orientation. Belief in the sacredness of human life as representing a universal human value of respect for the individual.</td>
</tr>
</tbody>
</table>

The level of reasoning of a student is judged from his/her response to a series of moral dilemmas, many of which seem particularly appropriate to questions in environmental education. For example, on a moral issue concerning the value of human life, the six stages can be defined as follows:

1. The value of a human life is confused with the value of physical objects and is based on the social status or physical attributes of its possessor.
2. The value of a human life is seen as instrumental to the satisfaction of the needs of its possessor or of other persons.
3. The value of a human life is based on the empathy and affection of family members and others toward its possessor.
4. Life is conceived as sacred in terms of its place in a categorical moral or religious order of rights and duties.
5. Life is valued both in terms of its relation to community welfare and in terms of being a universal human right.
6. Belief in the sacredness of human life as representing a universal human value of respect for the individual.
Research suggests that all children will pass through the same stages and in the same order, although not at the same rate, or necessarily at the ages shown. In fact, it is quite probable that many adults have not reached high levels of post-conventional moral reasoning. There seems to be a link between moral and logical (as defined by Piaget) thought, such that a student cannot exceed in the moral realm what he is capable of in the logical. However, most students are probably reasoning several levels below their capabilities at any given age.

Intervention designed to raise the level of moral reasoning seems most effective if the student is challenged at one level above that at which he/she is operating. The effectiveness of intervention diminishes as the gap between the challenge and the student's level of thought widens, and there is no effect if a conventional student is challenged, for example, with examples of high-level post-conventional reasoning.

Since schools adopt as one of their roles the development of higher levels of morality in children, such a model seems appropriate for instruction, and might well represent a suitable substitute for other types of "values clarification" which seem less well grounded in theory.

In particular, environmental education, which searches for some kind of abstract "environmental ethic," might find it useful to design its content around a series of moral dilemmas such as those which follow.
THE ENVIRONMENTAL ACTIVIST

A man had discovered that a local industry was pumping untreated waste chemicals into a river near his home. Unfortunately, he was not able to prove this, since the pumping was conducted at night and in great secrecy, and there was no legal way to put a stop to this activity. Finally the man decided to act by himself and dynamited the pumping station. A tragic result of this action was that a security guard was killed in the explosion. Should this man have bombed the pumping station?

1. Is the man doing this to help others, or simply to make his own life better?

2. Does the man have the right to destroy property that is not his own?

3. Did the man believe that he might be arrested and put in jail?

4. Would dynamiting the pumping plant benefit other people in the long run?

5. Will the man's action anger other people and give environmentalists a bad name?

6. Was dynamiting the pumping plant consistent with principles of justice?

7. Should decisions about the environment be in the hands of a few government officials, or in the hands of the people?

8. Was the man following principles which he believed are above the law?
THE ALASKA PIPELINE

The Environmental Production Agency (EPA) was founded by Congress to be the judge of activities which might damage the environment. Due to the grave danger of such a project, the EPA did not approve plans for the construction of the Alaska Pipeline. Because of the impending fuel crisis, Congress and the President overturned the decision of the EPA and gave permission for construction of the pipeline.

Should Congress have reversed the EPA's decision?

1. Is the EPA responsible to Congress or the people?

2. Did Congress promise the EPA freedom to protect the environment, or just that its decisions would be subject to more important considerations?

3. When the welfare of the people is threatened, does the Congress have the right to over-rule an EPA decision?

4. By its actions, has Congress prevented a full discussion of this problem?

5. Will this action cause people to lose confidence in the Congress?

6. In taking this action, has Congress violated the legal rights of any citizen?

7. Should Congress be influenced by angry environmentalists when it is the Congress that knows best what is going on in the country?

8. Are environmentalists using this issue to stir up support for their position?
(The Doctor's Dilemma)

THE STARVING COUNTRY

A poor, overpopulated country faces, as the result of several years of drought, serious shortages of food. The United States has surplus food and could, by acting quickly, save these people from starvation. However, scientists point out that giving them food will only result in more rapid population growth and within a few years, unavoidable famine.

Should the United States send food to this country?

1. Does world opinion favor a mercy mission bringing food to starving people?

2. Is the United States obligated by legal principles to provide food if the alternative is to let people starve to death?

3. Would people be better off if left to work out their own problems?

4. Should the government pretend that it is unable to provide the needed food?

5. Do governments have the right to insist that people in other countries practice birth control if they receive food from them?

6. Should Governments show more concern for human suffering or for the good of society?

7. Is denying a person comfort for the sake of his people's future ever a useful act of cooperation?

8. Are there ethical or moral principles which go beyond those of individuals or societies?
FAST-BREEDER REACTORS

Perhaps the only way we can produce adequate sources of energy in the near future is through the use of fast-breeder nuclear reactors. These reactors would produce radioactive materials which will be very dangerous, and must be carefully stored away from human contact, for the next 200,000 years. A decision to use these reactors to produce the energy we so badly need would doom our ancestors for many centuries to vigilantly guard these materials and preventing their world being poisoned.

1. Isn't it natural to take what we need and let future generations solve their own problems?

2. Are we willing to endure this risk ourselves in order to obtain energy?

3. Would using fast-breeder reactors benefit everyone in the world, or just ourselves?

4. Should the rights of our ancestors to a clean environment be respected?

5. What values are going to be the basis for making such decisions?

6. Do we deserve a dangerous environment because of our greed?

7. Would the use of these reactors bring about more total good for the whole society or not?
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