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## ESSAY REVIEW

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### **OPPOSING VIEWPOINTS AND CRITICAL THINKING IN PHARMACEUTICAL EDUCATION**

Claudia B. Debner, ed. *Chemical Dependency*. St. Paul, MN: Greenhaven Press, 1985.

Julie S. Bach, ed. *Biomedical Ethics*. St. Paul, MN: Greenhaven Press, 1987; *Drug Abuse*. St. Paul, MN: Greenhaven Press, 1988.

Bonnie Szumski, ed. *The Health Crisis*. St. Paul, MN: Greenhaven Press, 1989.

Critical thinking consists of an ability to examine and evaluate varied viewpoints, to sift through different and conflicting arguments, and to select or reject ideas and information, in order to distinguish between well-reasoned thoughts and conclusions from those based upon faulty logic and emotional or sociopolitical reasons. Critical thinking is more than just a list of skills; it is a process that must be learned and practiced continually. It is much more mentally demanding and risky than the passive approach of gaining knowledge by listening to the presentation of information in a lecture.

Reflective skepticism is very important to the process of thinking in a critical manner. The process itself usually consists of the ability to read attentively and critically, to recognize the argumentative mode and different argumentation techniques, to analyze and evaluate the various arguments and the information on which they are based, and to detect logical fallacies in arguments. In this approach to analyzing arguments, it is also important to be able to identify

stereotypes and to recognize ethnocentrism in others' viewpoints, as well as in our own. Critical thinking, then, focuses more on knowledge generated from facts or information rather than from beliefs, on appeals to the intellect instead of to the emotions, and on providing assistance rather than distractions in decision-making activities. These activities are also the basic steps in the process of identifying and analyzing ethical dilemmas.

Arguments are not bad or wrongful, although the act of arguing is sometimes viewed in our society and even in our educational institutions as a negative act. The primary definition of the word argument, in most dictionaries, is that it is the act or process of giving reasons for or against something, of contending or disagreeing in words. It is a reason given in proof or rebuttal. Argumentation is the process of forming reasons and drawing conclusions and applying those reasons and conclusions in a specific situation. This is the cornerstone of critical thinking.

The process of thinking in a critical manner begins with the examination of all viewpoints or arguments pertinent to the discussion or issue at hand. Many issues, especially in health care and drug use, are very complex and sensitive in nature. As a result, some points of view may be suppressed, making it almost impossible to identify or to know of their existence; other arguments may be known in general, but specific information about them is difficult to locate. This is especially true when the alternative, or minority, viewpoints hold strong contrary positions. Viewpoints or arguments are provided by "experts," who are generally considered to be well-informed about the issue. Most readers and thinkers tend to assume that their own viewpoints are the "best" ones, the arguments that are grounded in logic and common sense. But this assumption often closes minds to the alternatives, and it prevents exploration for and consideration of any other possibilities.

The four books under review are part of the *Opposing Viewpoints Series*, which is designed to help readers become more intelligent and discriminating consumers of information in a media-conscious society. To quote from the dedication page of each book: "The basic foundation of our democracy is the first amendment guarantee of freedom of expression. The *Opposing Viewpoints Se-*

ries is dedicated to the concept of this basic freedom and the idea that it is more important to practice it than to enshrine it.”

Many diverse topics are covered in the *Opposing Viewpoints Series*, from poverty to nuclear power and war. There are also a number of books in this series that cover subjects related to health matters, such as abortion and teenage sexuality. Each book consists of five or six chapters, with each chapter covering a specific issue. Each chapter heading is framed in the form of a question. How Harmful is Tobacco? Should Drug Testing Be Used? Does Private Industry Make Health Care More Efficient? In response to the question, a number of viewpoints are presented for the reader to consider, usually four to six per question or chapter. These viewpoints are selections reprinted from recent magazines, newspapers, journals, books, speeches, or position papers from a great variety of sources. Each viewpoint is prefaced with a brief description of the author and a synopsis of his/her beliefs and past work. Two or three questions are provided at the beginning of each viewpoint for consideration and reflection while it is being read.

In addition, there is a brief introduction for each book that balances the different viewpoints and gives an overall assessment of the current state of opinion. Some of the books in the series also have brief chapter prefaces that introduce each question or issue. The books themselves contain more than just the reprinted articles, reports, and essays. There are many cartoons and quotations strategically placed throughout each book. The quotations, along with some tables and other illustrations, often present bits of scientific information that are relevant to the issue. At the end of each book, and on occasion each chapter, bibliographies of books and periodicals and a list of pertinent contact agencies and organizations representing the various viewpoints are provided.

*Biomedical Ethics* is divided into five chapters. They address issues such as the ethics of genetic engineering and organ transplantation, including risks and controls; the limits of reproductive technology (e.g., surrogate motherhood, artificial insemination, and the use of human embryos); the use of animals in scientific research; and ethical standards to guide the health care system, addressing concerns like profit motive and access to care.

*The Health Crisis* consists of six chapters that consider a variety

of crises in health care. This book is the least coherent and bounded in terms of its focus. The issues under discussion include the status of world health and the AIDS phenomenon, the impact of private industry on the efficiency of health care, the nature of health care benefits for the elderly, the high costs of health care, the value of a holistic lifestyle and approach to health care, and approaches to improving health with an emphasis on prevention.

The volume entitled *Drug Abuse* covers five major issues, focusing on both licit and illicit drug use. The first two chapters debate the current war on drugs and the effectiveness of international campaigns to prevent or limit drug trafficking. Reprinted articles address issues of the legalization of drugs, the use of the military in intervention activities, and the influence of this war on foreign nations and our relationships with them. Two chapters review the debates on the use of drug testing on drug use problems in the world of sports. The final chapter considers how drugs should be prescribed legally, with deliberations on the benefits and harmful effects of generic drug products and on the medicinal use of marijuana.

*Chemical Dependency* provides opposing viewpoints on drug use in a nonmedical context. The causes of drug addiction (e.g., peer and social pressures and hereditary factors) and the issue of whether current levels of such are exaggerated—particularly for cocaine and tranquilizer use—are debated in two of the chapters. The problems surrounding the inappropriate use of alcohol in our society and the harmful nature of tobacco use are covered in two other chapters. The treatment of drug addiction and the need to reform drug-related laws are addressed in the remaining chapters.

The unique, and most valuable, aspect of the books in the *Opposing Viewpoints Series* is that an activity or exercise to develop critical thinking skills is provided at the end of each chapter. All of these activities are quite interesting and valuable, and in an interactive educational setting they should engender in students some of the principles of critical thinking. My personal favorites are the exercises that aid students in distinguishing between reason and bias, in distinguishing fact from opinion, and in recognizing deceptive arguments. The first type provides a series of statements related to the issues and viewpoints presented within the chapter and asks readers to identify those that are based on reason or rational consid-

eration of facts and those based on bias, prejudice, or emotion. The related exercise asks readers to distinguish between a factual statement, which can be demonstrated or verified empirically, and an opinionated statement, which is a person's interpretation of something based on beliefs or attitudes without an empirical basis. The recognition of deceptive arguments is an exercise that encompasses the very nature of argumentation techniques. It allows one to determine whether the advancement of an argument is based upon factual information and a logical structure, the use of deceptions or distracting appeals, or some approach that falls in between these two. Specific types of deceptive arguments, such as those that use scare tactics, personal attacks, testimonials, generalizations, and jumping on the bandwagon, are used in the presentation and discussion of this exercise.

The other critical thinking activities include the ranking of health care concerns or cases of drug abuse, a small group activity with questions for discussion; locating scapegoats, an exercise that identifies statements and actions that place the blame for social problems on certain objects or groups of people; recognizing statements that are provable; distinguishing primary from secondary sources and determining the accuracy and reliability of different sources of information; analyzing advertisements; and understanding words in context, a seemingly simple vocabulary-building exercise that shows the uses and meanings of words in different contexts. Some of these activities, such as evaluating the literature, have been used in pharmaceutical education. But while we may teach students to distinguish in a technological manner between the various sources of information, rarely do we place such sources in a social context and consider which types are more accessible to health care consumers.

The astute teacher should be able to develop additional exercises that will stimulate critical thinking. For instance, an exercise that would build upon the analysis of different sources of information could focus on the development of knowledge at a societal level and how specific types of information (e.g., scientific, societal, subcultural, personal) are modified and manipulated by a variety of individuals and groups for their own purposes. The analysis of the nature and sources of attitudes and beliefs and how they influence

action and decision making would be another interesting exercise. In addition, certain types of writing assignments (e.g., short essay, letter to the editor) allow students to place their conclusions from critical thinking, or to view the process of critical thinking, on paper.

These volumes in the *Opposing Viewpoints Series* do have some flaws. The mass media and popular press are the sources for many of the viewpoints. These sources are inherently biased, often to a great degree. While they certainly can represent one side of an argument, the accuracy and reliability of the information they provide can be problematic. A reliance on the popular literature will annoy those who view mass media as emotionally exploitive, self-serving, lacking in depth, and biased toward certain groups in positions of power. On a few issues that are covered in these books, the full range of alternative viewpoints is not offered or explored. A related concern, common in books such as these, is the rationale used to designate an individual author as an expert. Many readers may disagree with the choices made in compiling some of the chapters in these volumes. But then a good teacher will realize that the *Opposing Viewpoints Series* really represents a framework for structuring critical thinking activities in an educational setting. In fact, all readers of these books should realize that the editors have made certain choices that can be analyzed for patterns or trends in the strength of certain viewpoints.

The movement toward critical thinking will demand a complete reassessment of our current information-based approach to pharmaceutical education. While the provision of high quality information is still of value—for it is arguably the foundation for critical thinking activities—the popular approach of transferring information from a lecturer to passive students will have to change. Issues and concerns surrounding the use of drugs in our society are very complex and emotional in nature. There are certainly a great number of controversial areas in the pharmaceutical sciences and in the profession of pharmacy.

Most of us in pharmacy are reluctant to understand or to discuss a variety of very important issues, such as the therapeutic use of heroin to control pain, changes in drug laws for medicinal agents, statutes to legalize certain types of social-recreational drug use, and

even the current campaign of zealotry aimed at users of tobacco. In fact, the classic bias of pharmacy and medicine is the mechanistic view of the body and mind. Rarely are nontraditional healing systems or alternative views of health and illness discussed in colleges of pharmacy. How often have we been willing, at the very least, to hear and to comprehend these alternative arguments? Both inside and outside each book in this series appears the statement, "those who do not know their opponent's arguments and point of view do not completely understand their own." And while all discussion in educational circles—including, perhaps, this review—has been aimed at students, perhaps those of us in the role of teacher should assess and improve our ability to think in a critical manner before we attempt to guide others.

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