

## Criticism and Democracy

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### Abstract

This paper describes a holistic approach and an interdisciplinary curriculum in enhancing critical thinking and education for democracy at the junior-high schools and high-schools levels. The curriculum includes academic subjects such as the humanities, sciences, social sciences and art. The aim of this curriculum is not to teach an additional lesson in history, political sciences, art, etc., but to foster critical thinking and democratic behavior. The theoretical framework has two bases. The first derives from eighteenth century rationalism and scientific thinking, while the second is from the Industrial Revolution of the nineteenth century. Both produced social economies and a political structure of mass democracy. The focal point here is that critical thinking is a prerequisite for the existence of democratic values and principles in a post-modern society. The program integrates McPeck's strategies on the conception of critical thinking and the dialectic technique of Richard Paul. The curriculum is designed for one or two semesters (14 to 28 meetings). It is built in a modular fashion, in which each subject stands on its own and is presented by various lecturers from different domains. The curriculum was implemented in junior high and high schools in Haifa and vicinity.

"It is this consensus around liberal democracy as the final form of government that I have called "the end of history."

(Fukuyama, F (1990) in *Fortune*,  
January 15, 1990, p. 75).

### Introduction

The curriculum offers ways to develop critical thinking in order to cope with challenges that democracy presents in modern, social and national life. Few subjects are as ready-made as science and social sciences to stimulate skepticism and critical thinking by raising

problems, formulating hypotheses, designing controlled experiments and deducing conclusions. Social science teaches students to compare historical and social processes and to analyze reasons and causes.

The concept of critical thinking is a controversial issue. How do we define and teach critical thinking? How do we evaluate critical thinking programs?

There are several competing concepts of critical thinking:

#### 1. The standard approach (Ennis)

Ennis (1996) defines critical thinking as "reasoning and reflecting thinking focused on deciding what to believe or do" (Ennis, 1996). Ennis argues that since no one is capable of knowing everything, and since we cannot predict what kind of knowledge is required for specific problems in the future, we have to teach certain general principles which apply to all, or most, areas of human knowledge. The standard approach assumes these principles to be those of applied logic, both formal and informal.

#### 2. The infusion approach

The infusion approach defines critical thinking as consisting of the skill to reflect upon, to question effectively, and to suspend judgment or belief about the required knowledge composing the problem at hand (McPeck, 1990). McPeck states that critical thinking does not occur in a vacuum. It is related to the disciplines and to subject matter.

#### 3. The Dialogical Approach

According to the dialogical approach, critical thinking is the skill of dialogical thinking (Paul, 1989). Paul rejects McPeck's (1990) claim that no one can think without thinking about something, and that there are no critical thinking skills. Paul's (1989) argument rests on the fact that most significant and problematic issues require a dialectical sort of thinking, which crosses and goes beyond any one discipline.

Paul argues for the importance of teaching students the art of dialogical thinking. He indicates that most "real life" problems are multi-logical in nature, and thus require consideration from multiple points of view. In addition, we have the questions of how to teach and how to evaluate critical thinking.

The standard approach (Ennis, 1979) claims that the proper training for teaching critical thinking is to teach courses in informal logic, while McPeck (1990) claims that teaching critical thinking through the disciplines is the best method. In other words, the insight of the philosophy of history, art, mathematics and social sciences should be as much a part of learning history as the details of the Cold War or as Newton's laws in natural science. Ennis and Paul treat critical thinking as a "general ability" that can be measured independent of context and subject matter.

#### Objectives

- 1) The ultimate goal of the curriculum is to enable students equipped with basic tools to challenge a world of accelerating change and complexity.
- 2) To analyze the link between criticism and democracy.
- 3) To prepare teachers to undergo an evolutionary process over an extended period of time. Many didactic teaching habits have to be replaced more by analytical discussions rather than by lecturing.

#### Frame of references

The theoretical framework is developed from 18<sup>th</sup> and 19<sup>th</sup> century rationalism and scientific thinking. The recognition that the individual has the ability to judge, consider and decide is one of the basic principles of Western liberalism in these centuries. In the 19<sup>th</sup> century the Industrial Revolution produced social economies and a political structure of greater democracy, ("mass democracy"), mass production and mass media. The post-industrial telecommunication and computer economy generated what has become known as the information era. The link between accelerated industrialism and revolutions in the 20<sup>th</sup> century formed new democratic and totalitarian regimes.

The explosion of the global knowledge has characterized the late 20<sup>th</sup> century. One of the characteristics of the 20<sup>th</sup> century is the rise of the masses and their influence on policies, politics, and economy on an international scale.

The violent protests in Genoa against the G-8 indicate, on the one hand, a trend supporting liberty and equality. However, on the other hand, it threatens to destroy Western civilization. In light of this, Gasset would say that we are witnessing the creation of hyperdemocracy - a situation in which the masses force their ambitions through materialism. Throughout modern history, from the time the masses entered the political arena, we can observe their behavior and learn about the link between criticism and critical thinking and its effect on democracy.

The following relates to two central trends in the reaction of the masses to various political situations between the two World Wars.

Reaction No. 1: The masses are swayed by the control of the regime in the media, in education, industry, etc. The outcome is the suppression of criticism which leads to the loss of civil rights and freedom. It is this loss that threatens the very existence of a democratic society and may lead, to a certain degree, to a totalitarian regime.

Example of Reaction No. 1: The rise of totalitarian regimes such as Nazism and Communism between the two World Wars when the masses supported leaders such as Hitler, Mussolini and Stalin. Today we are faced with a similar situation whereby the masses are swayed by the leaders of the regimes in the Middle East.

Reaction No. 2: The revolt of the masses is based on criticism and the principles of civil rights, freedom and equality. The outcome is the maintaining of democratic values.

Examples of Reaction No. 2: The fall of communism in the 80's was a direct result of the criticism of the masses and their struggle for civil rights. As mentioned above, we face today another aspect of criticism while preserving democratic values. This is expressed by the anti-globalization movement which opposes the monopoly of the super powers over third world

countries. We see that during the 80's in China, criticism failed the masses when they took up their struggle and were brutally suppressed by the regime in Tiennenman Square. However, during the McCarthy Era we witness the success of criticism which has become the backbone of the democratic society.

#### **Methodology and Rationale**

The rationality of this program integrates the Infusion Approach on the conception of critical thinking and the teaching strategies of Richard Paul (1989). The program applies integration of one or more critical thinking strategies derived from critical thinking principles, developed by the Sonoma State University, Center for Critical Thinking and Moral Critique. The following is a partial list of strategies in teaching critical thinking through history, art, social sciences and natural sciences. The skills which are taught are to compare analogous situations, evaluate the credibility of sources of information, make interdisciplinary connections, practice Socratic discussions by clarifying and questioning beliefs, theories, or perspectives, distinguish relevant from irrelevant facts in a given theory, and distinguish between pseudo-science and science.

Pseudo-science means "fake" or "false science". It includes claims that no one has tested in experiments, and therefore are not supported by scientific evidence. The pseudo-science writer, in this case, is one who uses lies and misinformation in order to promote products and gain ratings and science prestige. Astrology, crystal healing and fortune telling are only a few examples of this. In order to develop skepticism and critical thinking, the science teacher has to indicate many examples whereby pseudo-science is used in advertising. In fact, democracy produced and allowed advertising which is a real protector of free, independent press and electronic media. The student has to be equipped with critical thinking skills in order to distinguish between truth and lies in advertising.

The main way to fight pseudo-science is to give the student better knowledge. In order to distinguish pseudo-science from science, the student compares scientific texts with texts that

are taken from advertising or from the media. He learns to identify the main criteria of pseudo-science, which are indifferent to facts and present false data.

Astrology, crystal healing, and fortune telling are only a few examples. The main way to fight pseudo-science is to equip the student with critical thinking skills to transfer maximum knowledge to multiple problems.

#### Example 1

##### Pseudo-science

"Our new, **modern** cosmetic products will feed your facial epidermis, supply energy to your cells, and renew them within 10 days! You can see it by **performing your own experiment!** All you have to do is to use our products for 10 days and to fill the table below. Our products are made only from **natural** materials. They are produced by **highly advanced technology** and fit the modern independent woman style!"

**Table 1: Efficiency of cosmetic products**

Day of treatment	Skin condition
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

##### Science

1. The skin consists of two tissues: the epidermis and the dermis. The epidermis is built of dead cells. They do not require food, oxygen and energy. The dermis is built of living cells. The blood brings food, water and oxygen to the living cells of the dermis.
2. The cell membrane allows only small molecules to penetrate into the cell. Thus, many vitamins and other nutrients cannot cross the cell membrane.

3. This scientific knowledge was gained by many controlled experiments. Scientists use certain quantitative criteria in order to collect data and to test their assumptions.

Questions:

1. What are the words that the pseudo-scientist uses in order to convince us to buy his cosmetic products? (Why did he use bold fonts in some words?)
2. Compare between the two texts. What can you learn from the comparison?
3. Do you think that using the products and writing the "data" in the table means "scientific experiment"? Explain your answer. It is recommended to use the terms like "objectively", "controlled experiments" and "quantitative criteria" in your answer.
4. In order to convince us, the pseudo-science writer imitates characteristics of scientific writing. Find these characteristics in the pseudo-science text.

Example 2

Pseudo-science

"Last year my doctor discovered a tumor in my digestive system, and a part of my stomach was removed. Since then I have been suffering from high blood pressure, a high level of sugar in my blood, rapid pulse and breathing difficulties. Last month I bought a set of natural healing crystals that were taken from a very ancient, natural rock. Now I am a new man! My blood pressure, my sugar level, my pulse rate, and my breathing have returned to normal!

The healer told me that he tried the crystals-treatment on a few other patients and it works! All of them said that they feel much better now.

"I learned from this horrible experience that intelligent, modern people must not rely on their doctors. They have to take responsibility over their own body!"

Science

1. The digestion of certain proteins begins in the stomach. The stomach absorbs small molecules such as water, glucose, and salt.
2. Normally, the stomach does not influence blood pressure, pulse rate, sugar level, or the breathing system.

3. In order to test the efficiency of healing crystals (or other means), scientists must perform controlled experiments and to use quantitative criteria. They must collect relevant data, to analyze results and to either reject or accept hypotheses.

Questions

1. Find at least three words that the pseudo-science writer uses in order to convince us to buy his healing crystals.
2. Find characteristics of scientific writing in the pseudo-science text. Why does the writer use them?
3. "The healer told me that he tried the crystals-treatment on a few other patients and it works! All of them said that they feel much better now!" Is it a scientific test? Explain your answer.
4. "I learned from this horrible experience that intelligent, modern people do not have to rely on their doctors. They have to take responsibility over their own body!" Do you agree with this final conclusion of the pseudo-science writer?

The uniqueness of our curriculum is that it develops an interdisciplinary holistic method to analyze the insight of the rationale of democracy through crossing of multi perspective domains. The essence of holism is often states as a twist of an old phrase, "the whole is equal to the sum of its parts". By saying that, holistically, the whole is **greater** than the sum of its parts. The twist is that the greatness here does not refer to amount, but rather to the qualities of the whole. In other words, as parts become organized into more and more complex wholes, we find functions and attitudes emerge that go beyond anything one could have imagined from understanding the various separate parts (Crews 1993). In the teaching process, teachers are encouraged to use test exercises, (e.g., distinguishing between statements of facts and statements of opinion, focusing on open mindedness and discerning bias). The purpose of these exercises is not to assess critical thinking, but rather to help identify individual difficulties in the thinking process and stimulate students towards further learning.

The following are suggestions for the structure of an interdisciplinary holistic program. The subjects are taken from different domains such as the humanities, sciences, philosophy, and the arts. The homeroom teacher co-ordinates the entire program. It is preferable that the homeroom be a teacher of the humanities while the other subjects should be taught by the subsequent teachers of the various subjects. The program, as a whole, proves that critical thinking is the backbone of democracy.

The first unit causes the pupil to be confronted with the importance of criticism personally as well as on a national scale. In this chapter, pupils watch a movie set in a school atmosphere. They then analyze the ideas and message of this movie through the use of jigsaw. It is recommended that the homeroom teacher teach this.

The second unit teaches the pupils the principles of criticism as a basis for scientific thought. This chapter should be taught by a science teacher.

In the third unit, the pupil learns the importance of logic thinking. This should be taught by the philosophy teacher.

The 4<sup>th</sup> and 5<sup>th</sup> units should be taught by the art teacher. The pupils understand the importance of critical thinking as it is reflected through the art of futurism and expressionism.

The 6<sup>th</sup> unit is dedicated to a history workshop. In this unit, the pupils have to cope with historical texts that deal with the entry of the masses into the political and social arena and the legitimization that these masses give to the democratic governments and to totalitarian regimes. Here, the pupils learn the link between democracy and totalitarian regimes. At this stage, criticism is recognized as the backbone of democracy and is encouraged, while the hindrance of criticism is understood as giving way to totalitarianism.

In the 7<sup>th</sup> and 8<sup>th</sup> units, the pupils end by debating the chances of democracy in the 21<sup>st</sup> century.

The topics below are examples of this multi-perspective view. Subjects could be changed according to the level of the class.

1. Lack of criticism and its consequences. The film "THE WAVE".
2. Natural Sciences - the methodology of planning controlled experiments and data as a tool for developing critical thinking.
3. Exercise in reasoning, false assumption and stereotyping.
4. Expressionism as a reaction to the smokestack society. (Film and painting of expressionistic and futuristic masters).
5. Futurism – A social political history as much as art history.
6. The history workshop.
7. "Animal Farm" (film) The dilemma of democracy in the twentieth century.
8. The Social Pact: liberalism versus radicalism.

1. Lack of criticism and its consequences. The film "THE WAVE"

#### Objectives

The student will discuss the consequences of lack of criticism in an open society and challenge issues such as democracy versus totalitarianism.

#### Strategies

(One) Watching the film "The Wave", and then exercising role playing (Jigsaw) and reconstructing opposing views.

(Two) Using critical vocabulary, practicing Socratic discussions, clarifying and questioning theories.

2. Natural Science

#### Objectives

The student will understand the principles of the scientific method and adopt a historical perspective. He will understand that new scientific discovery is based on the knowledge available at that time. In addition, he will acquire intellectual tools to distinguish between science and pseudo-science.

#### Strategies

(One) To practice science methodology at the junior-high schools and at high schools levels, and to provide the student with critical thinking skills in order to be able to ask skeptical questions at any stage of his research: while he

makes careful observations, states a problem, proposes hypothesis, designs controlled experiments, collects relevant data and evaluates his results objectively.

(Two) Using historical approach. The student sees that knowledge is built gradually step by step, and theories are always based upon information that was available at that time. Thus the student recognizes once again that scientific inquiry is a dynamic process, and many old theories are discarded or changed during history due to new information. Technological development plays an important role in the history of science. Scientists could not learn about bacteria before the invention of the microscope, and the first microscope was built only after the discovery of certain optical principles.

(Three) Comparing scientific and pseudo scientific texts.

3. Logic: Exercises in reasoning, false assumptions and stereotyping (According to the Oxford Dictionary, it is "a fixed pattern of behavior").

#### Objectives

The student will develop basic skills in reasoning such as the distinction between fact, opinion and reasoned judgment. He will develop critical insight into the phenomenon of stereotyping, and will be able to examine the media in order to determine the extent of stereotyping.

#### Strategies

(One) Comparing and contrasting German cartoons from the thirties.

(Two) Analyzing Jewish stereotyping in Western Christian culture.

(Three) Exploring the consequences regarding stereotyping

4. Expressionist reaction to contemporary society (through film and art)

This unit stimulates criticism by a multi-aspect view. Expressionism can be described most broadly and simply as a response to the fear of decline. The Expressionist-protest ranging from the degeneration of the Nazi regime as simply the most recent type of "degeneration" in art to the Belgian view of Expressionism as the art of refugees displaced by war, and finally,

to the French view of it as the art of Jews alienated from society. Another aspect is the view of Americans who, on the threshold of a later war, saw it as a more positive art of social change and self-assertion. Even after the end of the German movement, Expressionism had something to say not only about German culture but also about the human condition of twentieth-century man (Gordon, 1987).

This unit is essential as it evokes the awareness to criticism.

#### Objectives

The student will analyze the ambivalent approach of German expressionism to modernism and materialism. This is the link between criticism and democratic and totalitarian regimes.

#### Strategies

(One) Watching a film critically evaluating perspectives and interpretations.

(Two) Making interdisciplinary connections.

5. Futurism - A Social-Political History as much as Art History

"We will sing of great crowds excited by work, by pleasure, and by not; we will sing of the *multi-colored polyphonic tides of revolution in the modern capitals; we will sing of the vibrant night... of arsenals and shipyards blazing with violet electric moons; greedy railway stations that devour smoke-plumed serpents; factories hung from clouds by the crooked lines of their smoke; bridges that stride the rivers like giant gymnasts, flashing in the sun with the glitter of knives; adventurous steamers that sniff the horizon; deep-chested locomotives whose wheels paw the tracks like the hooves of enormous steel horses bridled by tubing; and the sleek flight of planes whose propellers chatter in the wind like banners and seem to cheer like an enthusiastic crowd.*" (Filippo Tommaso Marinetti 'The Founding and Manifesto of Futurism' Feb. 1909).

Italian Futurism was the first cultural movement of the twentieth century to aim directly and deliberately at a mass audience (Tisdall & Bozzolla, 1997).

#### Objectives

The student will Analyze Futurism as an expression of the modern masses, and will analyze the multiple aspects of the scientific

industrial revolution that generated the masses, which constituted social economy and political structure of mass democracy.

**Strategies**

(One) Analyzing, clarifying and criticizing futurism manifestos.

(Two) Analyzing the paintings of futurism by the Masters.

(Three) Making interdisciplinary connections.

6. The History Workshop

**Objectives**

The student will learn how to reason historically since it is necessary for understanding the present and for making rational decisions regarding the future. He will exercise how to engage in various kinds of thinking operations such as identifying a historic or social problem, breaking the problem into sub-problems, hypothesizing, testing the hypothesis, and forming a conclusion. He will develop also the ability to reflect upon questioning effectively and suspending judgment upon required knowledge.

**Strategies**

(One) Studying relevant essays concerning the philosophy of history with special emphasis on the subject matter.

(Two) Comparing subject domains and their thinking processes; for instance, comparing science and social science.

7. The Dilemma of Democracy in the 20<sup>th</sup> Century (The film "ANIMAL FARM")

**Objectives**

The student will challenge the chance of the masses to implement the principles of freedom and equality in a modern industrial society. He will understand the role of the masses in the post-industrial society.

**Strategies**

(One) Watching the film critically.

(Two) Practicing Socratic discussion, clarifying and questioning beliefs, theories or perspectives.

8. The Social Pact

**Objectives**

The student will analyze the multiple aspects of the inner conflict between the individual and the state. He will clarify the

concept of freedom, will find out whether freedom of criticism is a dominant component of a democratic society, and will learn the role of the masses in a democratic society.

**Strategies**

(One) Comparing critically between the theories of J. S. Mill and J. J. Rousseau.

(Two) Evaluating dialectically perspectives of liberalism versus radicalism.

**Results**

All of the above units were implemented in high schools in Haifa and its vicinity in Israel. The curriculum was evaluated by teachers and parents that participated in panel discussions. The general consensus of the parents and teachers was that this method is a positive aid and tool in transferring critical thinking to multiple social and political issues.

Although the curriculum was written for junior high and high school students, it can easily be used at various academic levels. It was implemented partially in teachers' courses at the Gordon College of Education in Haifa, Israel, and also at Haifa University.

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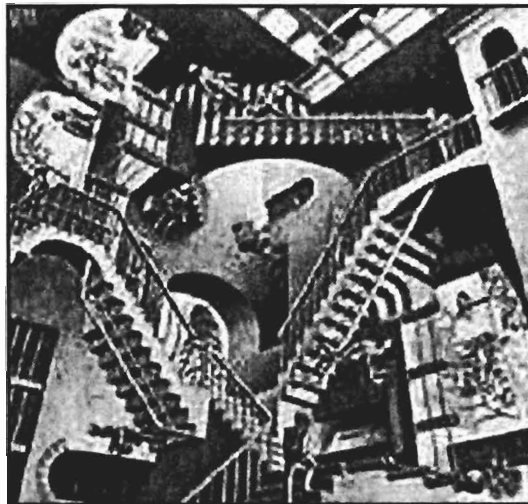
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M. C. Escher

*Relativity*, 1953