The Relevance of Critical Thinking
to the Teaching of the Social Sciences

Bruce W. Davidson

Outline

Introduction

Critical thinking courses now can be found in the curriculums of many American universities. It is even a required subject at state colleges in California. In fact, the term *critical thinking* has become widely used among teachers at all levels of education in the US and other English-speaking lands. In contrast, here in Japan the topic of critical thinking is still basically a new notion in education, though it has received a small amount of attention in some circles. A good portion of my academic life in recent years has been spent trying to demonstrate that critical thinking can and should be applied in English language classrooms in Japan (Davidson, 1994). Along with that, I have given some attention to its prospects for success on the Japanese scene in general, concluding that there are good reasons to believe it can be successfully taught here (Davidson, 1995). Though

the hierarchical and conformist nature of Japanese society tends to discourage critical thought, clear examples of rational thinking can be found in the behavior of Japanese people, and many in the government and society in general are coming to acknowledge the need to include instruction in logic as a part of education.　In a previous article in a university journal I explored ways of incorporating it in an English language class (Davidson, 1996).　Now that I am teaching English in the Social Welfare department here at Hokusei Gakuen University, I have come to be especially interested in seeing how critical thinking can be taught to Social Welfare students through the medium of English language instruction.　However, my interest goes beyond the narrow field of English language teaching.　In this paper, I will make a case for the inclusion of critical thinking instruction as part of a social science curriculum, including social welfare.

First of all, I will briefly define what I mean by the term *critical thinking*.　Then I will make a case for including critical thinking in the teaching of the social sciences by looking at some important areas in which critical reasoning is needed by social science students. Finally, I will mention some indications that critical thinking both needs to be and can be taught as part of social science instruction among undergraduate students in Japan.

The Meaning of Critical Thinking

Among experts in the field, critical thinking normally means the rational judgment we exercise in assessing the believability of information or appeals to belief.　Before one can accurately evaluate a piece of reasoning, however, one has to understand it thoroughly, so the process of critical evaluation also includes the ability to analyze reasoning by breaking it down into its component parts and examining each in turn.　In other words, a critical analysis would include identifying the definitions of key concepts, the conclusions, and the

premises (reasons) in an argument, including any unstated but impor-
tant assumptions. It would evaluate the quality of the reasoning and
pinpoint fallacies. It would also need to include an examination of
the quality of the evidence used to support the reasoning. More
complete discussions of the concept of critical thinking can be found
in Siegel (1988), Paul (1994), or Norris and Ennis (1989).

Another way of explaining the meaning of critical thinking is by
contrasting it with its opposite: the belief in explanations simply on
the basis of pronouncements by the media or authority figures. So
all forms of brainwashing can be considered the antithesis of critical
thinking. It also does not have much in common with rote memor-
ization, disparagingly called "didactic teaching" by one critical think-
ing educator (Paul, 1994). Critical thinking education seeks to stimu-
late the analytical and evaluative faculties of the mind, not just its
raw ability to memorize by rote.

Areas for Applying Critical Thinking

The News Media and Social Phenomena

In particular, critical thinking can be fruitfully applied to many
aspects of teaching the social sciences. One is in the intelligent,
critical reading of news about social phenomena. Some professors
in our department have requested that English teachers help Social
Welfare students to read newspaper articles in English, since they
must deal with such material in their classes. However, an intelli-
gent reading of the news is more than just a matter of deciphering the
English and general meaning. It also should include an appraisal of
the ideas and truth-claims. In their textbook *Social Problems: A
Critical Thinking Approach* (1993), the authors note that news writers
often tend to have a superficial and purely emotional reaction to
events. For example, after news reports about a shocking rape and
murder case in Philadelphia in 1966, newspaper editors clamored for

stricter punishments for such crimes.　Responding to such public sentiment, officials passed laws to provide for harsher penalties. Afterwards, sociologists noted that the laws seemed to have no effect in decreasing violent crimes.　Solutions proposed by the news media are often superficial and impractical.　Similar reactions calling for harsher penalties and far-reaching educational reforms came after the recent murders by a fourteen year-old in Kobe.　Students can and should learn how to critique solutions offered by the news media.

The Pitfalls of Causal Reasoning

The news media also often engages in superficial reasoning when it comes to tracing the causes of many social phenomena.　News stories and editorial writers often oversimplify.　Baker, Anderson, and Dorn (1993) comment that "Readers must be wary of any commentary on a social problem that reduces the explanation to a single cause" (p. 62).　Social phenomena often have many causes rather than one, and the real causes of social events are often difficult to determine.　Evidence of causal connection must be established before causal explanations are offered, and causal explanations should often be treated with a great measure of doubt.　For example, the so-called "white flight" of Caucasian families moving from the inner-city to the suburbs in the US during the 1970s was attributed by many to mandatory school busing.　However, others observed that white people had been moving out of the cities for years before the advent of school busing and that there were other reasons for it (Baker et. al., 1993).　In Japan, the problem of school teasing has been commented on extensively.　Blame has been laid at the door of the educational system, Japanese society in general, parents, and the influence of video and TV.　Before making such sweeping judgments, however, people should ascertain whether there is any evidence to substantiate any of them as real causes of school teasing. Attributing causes will ultimately have a lot to do with finding

solutions, and causes need to be proven, not simply asserted.

Causal reasoning is especially prone to error. In his book on reasoning fallacies, Damer (1995) deals with a variety of common mistakes: causal oversimplification, confusion of cause and effect, confusing a necessary with a sufficient condition, the domino fallacy, the gambler's fallacy, the neglect of a common cause, and the *post hoc* fallacy. The *post hoc* fallacy is an abbreviation of the Latin phrase *post hoc, ergo propter hoc*, meaning "after that, therefore because of that." This is the error of concluding that one event caused another simply because it preceded the other in time. For example, a company colleague might tell a new employee: "We never had any problems until you joined our company. Now we are always in the red." It may merely be a coincidence that the company's performance declined after the new employee joined the company. The real causes could easily lie elsewhere: in the national economic climate, the boss's negligence, competition from other companies, or product defects. Critical thinking can address the variety and prevalence of fallacious causal reasoning. It can be especially useful in the social sciences, in which causes are often open to debate.

Empirical and Statistical Errors

This brings us to the issue of empirical evidence. Supposed empirical evidence is often offered to support a view or position; however, the quality of evidence varies, and many facts presented as evidence are misused. Nevertheless, people tend to be taken in by anything that appears to be empirical. Statistics, pie graphs, and charts tend to make a favorable impression on most people. Many need to learn to be more critical of such purported evidence. For instance, several years ago a furor was created in educational circles when it was reported that Japan had the second lowest national average TOEFL score in Asia. Many concluded that Japanese English abilities were inferior and that English language education

was to blame. However testing expert James Dean Brown (1993) pointed out that Japan's average TOEFL score proved nothing about the English abilities of Japanese people as compared with other Asian nations. This is because Japan also has by far the highest number of people taking the TOEFL test. In many nations, only a very small number take the TOEFL test. Usually they are proficient English language users definitely planning to study or do research abroad. In Japan, many without such definite plans take the test as a measure of their English language achievement. So naturally a lower national average score results.

In their graduation theses and in other courses in which they analyze experimental data, students would appear to need some familiarity with how data can be misinterpreted. Otherwise, they run the risk of misanalyzing and misinterpreting the data they encounter. This is one area which critical thinking training can prepare them for.

Conceptual Problems

Not only popular statistics and the views of the news media but also the views of the academic community need to be critically assessed by students, and the social sciences are no exception. On the contrary, they are probably even more in need of criticism than the hard sciences, which concern more easily analyzed physical phenomena. Sociologist Yehudi Webster (1992) gives many instances of questionable thinking in the analyses and views of social scientists. For instance, the whole notion of race has sometimes been poorly defined by social scientists. What precisely is a race? Is it biological — only a matter skin color or anatomical features? Or is it something ethnic or cultural? Moreover, how do we classify the descendants or two or more racial ancestors, whose numbers are increasing? As one example, in the US census the classification of Japanese Americans over the years has inconsistently moved from

"non-white" to "Oriental" to "Asian and Pacific Islanders." The ill-defined nature of race, however, has not prevented social scientists from doing research and drawing conclusions based on the notion. In fact, Webster notes that it is possible to see social scientists themselves as helping to promote racial conceptions of social relations. In fields which sometimes have imprecise and debatable conceptualizations, students would appear to need critical thinking to understand the deeper issues. Webster recommends training in critical thinking as a way to cope with the ideological uncertainty in the world of the social sciences.

Critical Thinking and Japanese Undergraduates

Can critical thinking be taught to Japanese university students? There are indications that it can be. In a pilot study by Rodney Dunham and myself (1997), we demonstrated that critical thinking can be taught to Japanese undergraduate students through the medium of English as a foreign language. In a study involving English majors at a Kansai women's junior college ($N = 36$), a treatment group receiving only 18 hours of critical thinking skills training outperformed by far a control group receiving only content-based English teaching ($p < .001$) on an English language critical thinking test, the Ennis-Weir Critical Thinking Essay Test (Ennis & Weir, 1985). The test consists in a fictional letter to an editor of a newspaper about the problem of overnight parking in the writer's town. The examinee must evaluate the reasoning in eight numbered paragraphs, most of which commit various reasoning fallacies or statistical errors. The students without critical thinking training scored very poorly on the test, achieving an average score of only 0.6 out of a possible 29, while the treatment group scored an average of 6.6. Differences in scores appeared in test items related to areas of instruction covered in the critical thinking class. Though many

students in both groups seemed easily deceived by various errors, the treatment group apparently made some progress in critical thinking despite the language difficulties. Without the additional barrier of English, the prospects of success for critical thinking instruction are likely to be greater.

Another question worth asking is whether social science majors at Japanese colleges can benefit from training in critical thinking. At the beginning of the fall semester of 1997, I gave my Social Welfare English IV class the Ennis-Weir test. Also, I made available to students a Japanese translation of the test, since their English levels are generally lower than those of the English majors in the previous study. On the test, student scores ranged from 3 to 15, with a mean score of 7.7, though without another rater these scores are not strictly reliable. I graded their tests leniently and did not deduct the penalty point of -1 that is supposed to be deducted for poor reasoning according to the test protocol. If I had, the scores would have been several points lower. In their answers students frequently made the same kinds of errors as the students in the previous study. For example, only 5 out of 31 students remarked on the serious flaws in the experiment the writer describes. With a few exceptions, students demonstrated very little critical thinking ability. Their scores improved when they were given a post-test at the end of the course, after some training in critical thinking, with 12.8 as the average score.

Conclusion

These weaknesses in critical thinking among particular students may be only a reflection of the Japanese educational situation in general. Reasoning skills are not generally developed in the entrance-exam oriented school curriculum, which puts greater emphasis on memorization (Kobayashi, 1994; Davidson, 1995). The

poor performances on a critical thinking test, therefore, are hardly surprising. Put in a positive light, however, they indicate that a rich field for educational development is waiting to be explored by instructors. Some professors are probably already incorporating critical thinking in some form in their courses, but social science departments can probably enhance their courses of study by adding critical thinking to their explicit emphases and goals.

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Abstract

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Critical thinking has been widely promoted as an educational ideal, but it has not yet attained widespread acceptance in Japan. However, there are reasons to believe that critical thinking both can be and needs to be included in a social science curriculum in Japan. Critical thinking can be applied in ways such as the penetration of the superficiality of news media treatments of social phenomena, the avoidance of errors involving pinpointing the causes of social problems, the discernment of empirical or statistical weaknesses in research-based arguments, and the consideration of the conceptual problems found in the social sciences. Furthermore, there is some encouraging evidence that critical thinking can be applied with success in Japanese college classes.