

## Enhancing Thinking Skills in the Classroom

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**Abstract:** This paper reviews the use of critical thinking components in a language classroom within a university atmosphere. Language classrooms are believed to be the setting where students learn the use of language skills and enrich their language abilities. Therefore, students' thinking abilities are underestimated and instructors do not give enough space to activities that could foster students' higher thinking abilities. Furthermore, language instructors refrain from giving importance to the use of critical thinking abilities since their main focus is to teach the language in question. In this paper, I try to show the possibility to implement the critical thinking components into a language curriculum of a freshman reading and writing course within a university setting. The results show the possibility to use the higher thinking abilities in a language course if these skills are well-planted in the curriculum.

**Key words:** Thinking % critical thinking % C.B.I. % teaching writing % writing curriculum % language learning

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### INTRODUCTION

This study investigates the implementation of critical thinking goals in an Eng. 101 course through written assignments. Since the mission of Bilkent University is excellence in academic studies and in educating better citizens for the country, its administration believes that equipping learners with critical thinking skills is a crucial factor in the learning process; therefore, the faculties and the departments within the university have been undergoing change to include these skills in their departmental goals and objectives. It is the university's aim to produce individuals who can think, question issues, challenge ideas, generate solutions to problems, be tolerant of ideas and be flexible to the changing world and ideas. One of the aims of the F.Y.E.P. is to try to teach some critical thinking abilities to first year students taking Eng. 101-102 courses. The reason for this study is to find out whether the defined goals and objectives related to critical thinking in the curriculum are understood, applied and, used by learners in classroom situations.

Critical thinking has been a subject for researchers from a variety of disciplines for more than twenty years. In fact, the concept is not new to us, as it was first introduced by Greek philosophers and has been used from the times of the Greek Empire until today, gaining importance during its long travel throughout history.

The intellectual roots of critical thinking are as ancient as its etymology, traceable, ultimately, to the teaching practice and vision of Socrates 2,500 years ago who discovered by a method of probing questioning that people could not rationally justify their confident claims to knowledge [1].

According to the resources of the Critical Thinking Community [1], this historical trip began with Socrates and Plato, continued with Descartes and was a topic in essays by Montesquieu and John Locke.

In today's world, many people in the field of education and other disciplines complain about the fact that students do not think when they are performing their work. Cromwell [2] explains this concern, with the statement "one of the main goals of education, agreed upon by almost everyone, is the improvement of student thinking. And in the last decade there has been a growing concern that graduates at all levels do not demonstrate higher thinking abilities" (p. 39). Celep [3] explains that the problem is more serious in Turkey since the Turkish education system has been identified for the most

part as a “read and repeat” model. Students in the system of national education in Turkey are expected to get knowledge and repeat it during an examination. Students do not attempt to show any evidence of thinking, as they are not expected to do so. One of the major scientists in Turkey, Ali Nesin [4], underlined this problem saying: “The sole importance is given to knowledge in the national education system in Turkey. Yet, we have to teach our students how to think, question, do research and learn” (1995, p. F3). Nesin [4] directed attention to the importance of thinking, the lack of which stands as a deficiency in Turkish Education.

The lack of critical thinking skills affects not only students’ success but also their post education life when they graduate and start working. Hirose [5] reports that many large companies around the world point to the same problem, that recent graduates from schools and colleges come into companies without knowing how to think. Hirose indicated that recent graduates began their work life without basic thinking skills, “Many of today’s youth lack the basic skills to function effectively when they enter the workforce. A common complaint is that entry-level employees lack the reasoning and critical thinking abilities needed to process and refine information” (p. 1).

Howe and Warren [6] support this view, “Business and industry continue to report that many employees are not able to think critically in job situations” (p. 1).

In order to study an implementation of the concept, it is necessary to provide a definition of critical thinking. There are various definitions of critical thinking. A broad definition is stated by Ennis [7], “Critical thinking is the process and skills involved in rationally deciding what to do or what to believe” (p. 8). Another definition by Paul [8], the director of the Critical Thinking Community, expands this general definition. He defines critical thinking as follows, “Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action” (p. 1). In the literature, Atkinson [9], Benesch [10], deBono [11], McPeck [12] and others try to define the concept but scholars have not found a concrete, observable definition of what critical thinking is.

The idea behind critical thinking is that it is necessary within a society to protect human beings from being attacked for their beliefs or brainwashed into believing what others want them to believe without having the opportunity to question or inquire for themselves; thus critical thinking needs to be applied to life outside the classroom atmosphere. Auerbach and McGrail (as cited in Benesch [13]) discuss how critical thinking should be reflected by students in classrooms as follows: “In classrooms that feature critical thinking, students are encouraged to participate actively, raising issues of concern in their lives such as work, school, housing and marriage, as topics for class scrutiny” (p. 547).

The importance of critical thinking in the classrooms of a democracy has been highlighted by Mason and Washington [14] with the following quotation: “The citizens of a democracy need to be able to think for themselves, to reach their own conclusions and to act on them... The educational task is to teach students how to think seriously about series of issues (p. 9).

Today, with the advancement of technology, information has become something that can be found and utilized easily. Thus, knowledge on its own, as opposed to understanding, is not as difficult to acquire as it used to be. This naturally underlines the importance of the use of critical thinking, as dealing with information effectively has become more important due to its very abundance.

In order to activate critical thinking in students, our teachers need to present alternatives, different ways of interpreting texts and different conceptions of the world. As Mason and Washington [14] underline the importance of thinking in today’s democracies and other countries, they highlight the importance of a liberal education, which includes the concept of critical thinking. “Liberal education is one which teaches that there is always more than one way to see things and that it is always up to the individual to judge just where the truth lies on any given issue” (p. 10).

The concept of critical thinking within the field of the education is also not new. Dewey [15] highlighted the importance of thinking individuals for society and mentioned that one cannot claim learning information provides judgment. Memory is like a refrigerator, which stores the knowledge to be used in the future, “memory provides a stock of meaning for future use, but judgment selects and adopts the one to be used in an emergency” (p. 115). For Dewey, thinking plays

a crucial role for individuals in the process of learning. Therefore, steps to implant critical thinking in the process of education should be taken with the understanding that critical thinking cannot be learned as a separate concept by itself, but must be integrated into content curriculum activity.

Due to the deficiency of entry-level students and the importance of possessing thinking skills and with the help of research studies conducted over time, many educational institutions have added a critical thinking component into their courses and their institutional goals. Colleges and universities have also started initiating courses in which a critical thinking aspect exists. The English 101-102 courses at a college freshman level at Bilkent University are an example of this.

Mason and Washington [14] believe that the solution to the problems of liberal arts teaching is the integration of compositional and critical thinking skills as part of the educational project and not as something separate. Research conducted by NAEP (National Assessment of Educational Progress) as cited in Applebee *et al.* [16] shows that there is a link between effective writing and critical thinking skills. Research also shows that writing enhances learning. According to the report from The Indiana Department of Education (as cited in Risinger [17]), the primary goal of curriculum planners is to help students develop the ability to make well-informed, well-reasoned decisions and to act responsibly. "Responsible decision-making requires practicing the skills of acquiring, evaluating and using information for the purpose of identifying courses of action and predicting their possible consequences. Lessons that emphasize writing can contribute significantly to achievement of this goal" (p. 1).

### **SPECIFIC RESEARCH QUESTIONS**

The aim of the study is to analyze one instructor's implementation of critical thinking goals in her evaluation of essays within the Eng. 101 curriculum at Bilkent University First Year English Program (F.Y.E.P). To deal with the difficulty of concept definition, critical thinking goals were defined as the components of critical thinking understood and listed by the department and the course instructor. The study aims to answer the below questions:

- C What does the instructor consider the components of critical thinking to be, in terms of students' written performance?
- C How does the instructor implement departmental critical thinking components in planning writing assignments for students?
- C In instructor evaluation of student writing, what evidence does she find of the realization of the expected critical thinking components?
- C What is the students' understanding of the components of critical thinking in the Eng. 101 course?
- C Is there a relationship between the instructor's evaluation of critical thinking components in written assignment and students' perceptions of critical thinking components in writing assignments?

### **METHOD**

**Procedure:** This research study was carried out through interviews with one Eng. 101 course instructor, two pre-selected students and the director of the First Year English Program (F.Y.E.P.). During the study, the course instructor was interviewed eight times, the students eight times and the director of the program once. During the study, students submitted three assignments, the first two of which had three drafts each. Each draft was evaluated by the instructor prior to the interview about the draft. For the final assignment, only one draft was required.

**Sample:** The participants of the research were 5 students volunteered to take part in the research, one instructor from the F.Y.E.P. and the director of the F.Y.E. program at Bilkent University.

Students, after having been informed on the study, were asked if they would like to involve in the study and among them, five of whom were selected randomly. Among those, the researcher asked for two volunteers for the interviews to elicit information about their understanding of the assignment requirements and the work they did to meet these requirements. Students were from the freshman year of a private university and had just completed their one semester at the preparatory school, passed the proficiency exam with a “C” grade and registered to their departments. All but one of the participants was full scholarship students, which is granted on the basis of students’ performance at National University Placement Test taking once a year across the country.

The course instructor involved in the study had been working in the program for more than 8 years as a language instructor and knew the university student profile, course goals and objectives well.

The director of the F.Y.E.P. had been at Bilkent University for four years and an experienced instructor with more than 10 years. During his tenure as Director, he was involved in the restructuring of the program curriculum and the emergence of a Content-Based Instruction focus.

**Material:** Throughout the study, three sets of interviews were prepared and implemented by the researcher, two of which for the instructor to have held at the beginning of the semester of 2001-2002 academic year and after each submission of drafts by the students.

Second set of interview was for students and it was of two types, one of which, similar to the instructor’s, to have been conducted at the beginning of the semester. The post-submission interviews were conducted each time students submitted the drafts to the course instructor.

The director interview was given at the beginning of the semester.

The brief information regarding the procedure, purpose and the frequency was given in the below table.

Participants	Method	Purpose	Time
Instructor	1- interview: the selected instructor will be asked a set of prepared questions.	1- to elicit instructor’s definition and understanding of critical thinking to be used as a criterion in the study.	1- beginning of the semester
	2- interview: 5 students’ papers will be selected and the selected instructor will be asked a set of questions after the evaluation of these papers.	2- to find out how the selected instructor evaluates the existence and the progress of critical thinking skills of a student as reflected in writing assignments.	2- during the semester. Eight times.
	3- form filling. The selected instructor will be asked to fill out a form designed in advance.	3- to find out how the instructor connects class activities and evaluation being practiced in the assessment.	3- 3-4 times during the semester
Students	1- interview.	1- To find out their expectations and their fulfillment level.	1- beginning and end of the semester.
	2- interview. Two randomly selected students will be interviewed based on the pre-designed questions	2- to find out their perception of assignments, what they have written down the process they have been through and what they thought they were doing in terms of critical thinking.	2- after each assignment is submitted
Director of F.Y.E.P.	1- interview with the help of the pre-selected set of question	1- to find out the departmental goals and objectives and understanding of critical thinking.	1- beginning of the semester

## **PROCEDURE**

Over the 8-week period of the study, the instructor distributed each assignment prompt to students, outlining what was expected of students for that particular assignment. According to her self-report, in addition to these, the instructor

explained each task to the students with the help of the assignment prompts while giving each assignment. The instructor went over each prompt by explaining what she expected students to do, which points they were to focus on while performing each task and told students the evaluation criteria. The instructor was also available through tutorials to help students when they needed guidance on the assignment requirements.

After the instructor interview guides were prepared, based on the research questions of the study, they were piloted with one faculty member before the semester began to test the clarity of the questions and the interviewer's behavior. The same process was followed for the students' interview schedule, which was piloted on the first week in the presence of a faculty member, who was to observe the interviewer's behavior and give feedback so as to maintain an effective and objective interview process.

As a final step, the director interview was prepared and the questions were piloted with one faculty member on the first week.

As the aim of the study was to analyze the Eng. 101 instructor's implementation of critical thinking goals through writing assignments, the five students' papers were used as the focus of the instructor interviews to determine to what extent the specified components of critical thinking goals and objectives were realized. Papers of the two students who were interviewed were used to elicit their understanding of the expectations for each writing assignment in regard to the components of critical thinking, how well they felt they had met the critical thinking goals in that assignment and the process they went through while completing their assignments.

In order to trace the teaching of the components of critical thinking in class, the instructor was given an instructor form that she was supposed to fill in over a 2-week period, in order to provide a sample of classroom activities that included the components of critical thinking.

The initial interview with the course instructor was conducted in English during the second week of the semester.

The student's initial interviews took place on the third week of the semester before the assignments were given by the class instructor. Over a period of approximately eight weeks, the interviews with the course instructor and the students were conducted after the submission and evaluation of each draft. The questions asked during these interviews focused on the instructor's evaluation of the five students' performance in their writing assignments, particularly on their use of the taught components of critical thinking.

All interviews were recorded through prior permission taken from the participants, transcribed by the researcher. Interviews with the students took place in their native language, Turkish, so as to let them express their ideas with ease. Then after being transcribed, they were translated into English by a professional translator. The other interviews took place in English.

## **RESULTS**

The analysis of the data collected with the help of the interviews is based on the course instructor's understanding of the components of critical thinking as the instructor herself interpreted and evaluated these components in the classroom. The instructor's understanding of components is also compared to department goals and guidelines to see if instructor's understanding matches that of the department.

*What does the instructor consider the components of critical thinking to be, in terms of students' written performance?*

The list of the components of or skills related to critical thinking that the instructor includes in her curriculum is as follows:

- C questioning information,
- C looking at an issue from different perspectives objectively,

- C examining underlying issues,
- C ideas or assumptions,
- C application of the information to students' situation,
- C evaluation of the information accumulated,
- C identifying a problem and solving a problem,
- C supporting an argument with valid justification,
- C establishing connection between events and reasons.

When the instructor's components and expectations in each assignment were compared, it was noted that she did not expect every one of them in each assignment. She introduced the components gradually from the first assignment to the final one. The instructor expected to see all of the critical thinking skills covered during the term utilized in the final assignment. To implement the components over the semester, the instructor designed the assignments and evaluated the students' performance according to their use of these critical thinking components in their written performance throughout the semester.

*How does the instructor implement departmental critical thinking components in planning writing assignments for students?*

Based on the interview conducted with the director and on-line curriculum guidelines, the department critical thinking goals as manifested in the components of critical thinking are:

- C examining issues critically
- C looking at problems from multiple perspectives
- C considering issues from different aspects
- C knowing how to apply the information
- C creating a strong argument on issues
- C evaluating sources and sources (written and electronic) to be used in writing.
- C presenting information and opinion effectively
- C reading and analyzing texts
- C integrating and synthesizing work/research of others into their own writing
- C completing basic research at library (Program Director Interview; 15/05/2002).

Also the director added that students would continue to develop their ability to organize ideas in an appropriate manner for writer's audience and purpose.

When the instructor's components were compared with those of the F.Y.E.P. as elicited from the Director and some of the program's teaching guidelines, it was seen that the teacher listed all but one of the components on the F.Y.E.P. Director's list, although in slightly different form. Thus, the instructor's understanding of the components of critical thinking appears to agree with that of the department. Considering the background of the students in her class, the material she prepared and the goals to be attained by the end of the semester, she appeared to adapt the list of components to the situation in her classroom. This high level of agreement between the instructor's and the F.Y.E.P. Director's components of critical thinking is a particularly interesting finding in this study. When the program goals and objectives and curriculum guidelines on the program web page were examined, the components given by the Director in his interview were not explicitly stated, which according to the director, was a deliberate omission. But the instructor's components still closely matched those of the department. This suggests that there is an intra-departmental understanding among the instructors in the F.Y.E.P. in regard to what the components of critical thinking are.

*In instructor evaluations of student writing, what evidence does she find of the realization of the expected critical thinking components?*

The instructor was not able to find the complete list of the components of critical thinking in students' writing assignments, yet almost all the students seemed to understand the instructor's requirements and expectations and attempted to meet some of them throughout the semester.

When all the assignments were reviewed, it was seen that student work showed evidence of the following critical thinking components:

- C covering advantages and disadvantages,
- C looking at issues from both sides,
- C providing support for their arguments,
- C looking from different perspectives,
- C presenting solution to problems and
- C application of the information to their own situations.

According to the instructor, only one student was able to be objective, a component which the instructor highlighted in her definition of the components of critical thinking, possibly because it is not clear what this means and how "be objective" differs from "covering advantages and disadvantages" and "looking at issues from both sides or different perspectives".

When the three-draft assignments were taken into consideration, it was seen that there was a convergence towards the use of the components of critical thinking. In addition, students were able to use some of these expected components of C.T. in their final assignment despite the fact that it was a single draft assignment. This suggests that critical thinking components or skills can be taught, which supports Suhor's [18] claim that there is a close link between language teaching and critical thinking. As mentioned in the literature review, Ennis [7] believes in the possibility of teaching critical thinking skills to learners in different situations. These findings also suggest that students can be trained to use the components of critical thinking in their tasks with the help of an instructor who knows how to convey them in a classroom.

*What is the students' understanding of the components of critical thinking in the Eng. 101 course?*

The students did not have much understanding of the components of critical thinking at the beginning of the semester; however, during the semester, after the second assignment, almost all the students were able to meet most of the instructor's expectations in displaying the components of critical thinking. In addition, in the final assignment, it was noted that students showed improvement in their understanding and use of some of these components. For instance, in the final assignment one student almost fulfilled the instructor's expectations for the critical thinking components in that assignment, three students were quite close to her expectations, while only one student seemed to have some problems in meeting the expectations of the instructor.

In order to find an answer to this fourth research question, the students were asked for their own understanding of the components of critical thinking in their initial and post-submission interviews. The one of the interviewed student's components were, "approaching topics critically, looking at topics from different angles, changing the idea according to different views and taking a different form, not being monotype and brainstorming". The other interviewed student stated his as, "assessing and conceiving their values, evaluating cons and pros of individuals, sharing of thoughts reciprocally, brainstorming and sharing our views".

Therefore, students, in their assignments, were able to use the components that they listed in their initial interviews and it was interesting to see, one of the components of critical thinking, "taking advantages and disadvantages" appeared in both students' evaluations.

*Is there a relationship between the instructor's evaluation of critical thinking components in written assignments and students' perceptions of critical thinking components in writing assignments?*

The findings indicate that there is a relationship between the instructor's evaluation and the students' perception but it is limited. Students did not seem to have a clear understanding of the use of all these components. Their perception was limited to only some of the components listed by the teacher:

- C providing reasons,
- C synthesizing information,
- C taking different views,
- C looking at issues from different angles,
- C application of the information,
- C choosing relevant information,
- C taking the negative and positive aspects,
- C creating alternatives and
- C avoiding negative sides that the concepts might cause.

## **DISCUSSION**

The findings indicate that a 15-week course is not enough time to teach students to use the components of critical thinking in their studies and assignments. Besides, critical thinking is not a set of skills that can be taught in such a short period of time but needs to be integrated across the curriculum and embedded in program curriculums. However, findings also showed that students can be introduced to these components. Students, with the help of the assignments, relevant tasks and activities, should be given the opportunity to use critical thinking components so that they can have a better understanding of them.

During the study, it was seen that, although the instructor's implementation matched the program components, she was not able to verbalize a complete a list of the components of critical thinking and had trouble distinguishing between the characteristics of a critical thinker and the components of critical thinking. Therefore, in order to better enable students to learn these skills, instructors offering these courses should be trained on the use of these skills and on designing their materials accordingly. If the program does not wish to give a definition of critical thinking, it might be useful for it to be more explicit about the specific components of critical thinking that should be integrated into the program curriculum.

During the study, students mainly suffered from common problems such as "no relation between events", "no reason for events" and "no support". The reason for these problems, as Arapoff [19] stated, could be linked to their lack of effective writing skill, which might have hindered them while trying to express their ideas clearly. Although the instructor provided constant feedback on the assignments and during the tutorials, it was observed that similar problems recurred in the following drafts and assignments. Therefore, a more intense program aiming to link the use of C.T. components and students' general writing skills could be considered.

Students could also be given opportunities to practice these skills both in their courses and in their out-of-classroom activities such as the orientation programs and extracurricular activities, like student clubs, that can meet after class hours, organizations that can be in the student union and programs that can be organized for new comers, which introduce activities involving the use of critical thinking skills.

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