



Seçer, Ş.Y. E., Yücel-Toy, B. (2020). Impact of writing course design based on 5E Learning Model on writing skill instruction and development. *International Online Journal of Education and Teaching (IOJET)*, 7(3). 760-783. <https://iojet.org/index.php/IOJET/article/view/841>

Received: 03.05.2020
Received in revised form: 13.05.2020
Accepted: 06.05.2020

IMPACT OF WRITING COURSE DESIGN BASED ON 5E LEARNING MODEL ON WRITING SKILL INSTRUCTION AND DEVELOPMENT

Research article

Şule Yüksel Ertuğrul Seçer 

Air Force Academy, National Defense University, Istanbul

suleyukse77@gmail.com

Banu Yücel-Toy 

Faculty of Educational Sciences, Yıldız Technical University, Istanbul

byuceltoy@gmail.com

Şule Yüksel Ertuğrul Seçer is a researcher in Air Force Academy at National Defense University. She is a PhD candidate in Curriculum and Instruction at Yıldız Technical University. Her research interests are English language teaching, teacher education, and aviation English.

Banu Yücel-Toy is an associated professor in the Department of Educational Sciences at Yıldız Technical University. She received her PhD in Curriculum and Instruction. Her research interests are curriculum development, instructional design, research methods, measurement and evaluation.

Copyright by Informascope. Material published and so copyrighted may not be published elsewhere without the written permission of IOJET.

IMPACT OF WRITING COURSE DESIGN BASED ON 5E LEARNING MODEL ON WRITING SKILL INSTRUCTION AND DEVELOPMENT

Şule Yüksel Ertuğrul Seçer

suleyuksel77@gmail.com

Banu Yücel-Toy

byuceltoy@gmail.com

Abstract

This study aims to investigate the effect of 5E Learning Model-based Essay Writing course design and implementation on the achievement level of 12th grade high school students in Essay Writing Course. The teaching and development of writing skills in foreign language education is very important, but it is a known fact that our foreign language education presents problems even in the level of middle and higher education in the foreign language education system. In this respect, the development of writing skills and the improvement of the lessons are very important. The study is a case study with mixed method in which both qualitative and quantitative data collection procedures and instruments such as achievement tests, peer feedback form, students' progress check form, and teacher performance observation form are employed together. In the present study, qualitative data, collected by means of peer evaluation, student progress check and teacher performance observation, is subjected to descriptive analysis whereas quantitative data, collected by means of Essay Writing achievement tests which are applied to twenty-two 12th grade students before and after the instruction and implementation of 5E Learning Model-based Essay Writing Course as pre- and post-test, is analyzed by paired sample t-test. According to the results of the analysis, it can be said that the implementation of 5E Learning Model-based Essay Writing course has a positive effect on the achievement level of students in Essay Writing Course.

Keywords: writing skill development, design-based research, 5E learning model

1. Introduction

It is an unquestionable fact that learning English as a foreign language is the key to universal values that must be attained on the way to modernization. Besides, the effective instruction of knowledge and learner's own expression of the learned knowledge are the essentials of learning English as a Foreign Language. Basically, writing ability is defined as "the ability of a person to express his or her main purpose and thoughts in the second or foreign language, in the most accurate and most consistent way" (Murcia, 1991: 223). The ability of written expression is one of the most important components of language learning throughout the education process of the person as well as the human life (İnal, 2006). However, many researchers in our country and in the world point out that writing skill acquisition, development and instruction is a problematic and difficult process (Gökalp, 2001). In parallel to this, Deniz (2000) reveals that the problems related to learning and teaching foreign language skills that should be solved in the primary school period unfortunately continue during and after the university period.

The present study is carried out in a special purpose boarding high school which provides secondary level education in aeronautical field for the students who will continue their education at university level. The competence of the students, who will become future aviators, in oral and written expression in both education and professional life after-graduation has a great significance. In this respect, all the studies that aim to improve the writing skill of the students in general, to increase the student achievement levels in the Composition and Essay Writing courses within the foreign language education programs at high school level, to improve students' attitudes towards writing courses, and to find out and to cope with the challenges encountered in writing skill instruction are of great importance.

The main concern of this study is to improve the success of high school students in Essay Writing course by designing the course based on the constructivist learning model; 5-E learning model. Therefore, the main research question related to this central concern is "What is the impact of this designed course?". Within the scope of this study, first of all, a comprehensive needs' analysis is conducted to determine the characteristics and needs of the learners and the learning environment, related to the Essay Writing course. Secondly, in accordance with the findings obtained from the needs analysis, 3-hour Responsive Essay lesson is redesigned and implemented according to the principles of 5E learning model within the Essay Writing course, given in the 12th grade, in the second term of 2015-2016 academic year. Lastly, the design and the implementation of Responsive Essay lesson is evaluated in various terms such as achievement tests, peer evaluation, student progress check and teacher performance observation.

1.1. 5E Learning Model

The 5E learning model is one of the frequently mentioned models under the constructivist approach. This model identifies the processing steps of the course in cyclical form for both the teacher and the student. This model was developed by Rodger Bybee in 1989 (Sarı, 2011). The 5E Model consists of activities that increase the students' curiosity for further research on the subject matter, fulfill their expectations about the topic, and involve active use of the knowledge and skills they possess. In this model, the students are supposed to discover new concepts and integrate them with their previous knowledge (Ekici, 2007). Educational activities are organized in such a way that students can create their own knowledge in case of challenges (Türker, 2009). The 5E model is an assistant and regulatory model for the teacher. It is a general framework for the teacher. Each E in 5E model symbolizes separate stages in the model (Kanli, 2007) such as "Engage", "Explore", "Explain", "Elaborate" and "Evaluate" (Figure 1).



Figure 1. 5E Learning Framework

In the "Engage" phase, also the first phase of 5E learning model, the students are provided with a learning activity. The presented activity which may be a problem, a situation or an event should raise interest and curiosity. In addition, the activity presented should be relevant not only to the topics that they are subjected to in the future, but also to their former knowledge in mind. In the "Engage" phase which aims to grab students' attention, the students are helped to relate the subject matter to the phenomena they encountered in real life, and to present similar examples (Sarı, 2009).

In the second phase, named as "Explore", activities are organized in order for the students to explore concepts related to subject matter. These activities are the same for all students and designed to reveal students' knowledge, skills, and possible misconceptions. These steps should be concrete and practical activities. The teacher should be a mentor who encourages group work and discussion, advises students, encourages students to work together without direct instruction, and observes students during their interaction.

In the third phase, "Explain", concepts, processes and skills are made clear and understandable. First, a description is expected from the students, then the teacher draws the attention of the students and presents the concepts in a clear, simple and direct way with scientific explanations. At this stage, teacher's role is very important because he or she will make a direct expression. A variety of materials such as oral presentation, videos, films, educational software can be preferred.

In the fourth stage, "Deepening" (Elaborate), while the new terms, concepts and skills acquired by the students are adapted and applied to the new situation, the concepts, processes and skills, acquired in the previous three steps are generalized, expanded, and elaborated. In addition, printed materials, electronic databases, and experiments should be used at this stage so that students can get feedback from each other. The elaboration of information, the processing of technical information, and the transfer of information to other fields are among the other important issues for this phase.

In the final stage of the 5E learning model, the "Evaluate" phase, students have the opportunity to assess what they understand in the previous steps. Students return to the points they are missing at this stage. In this phase, open-ended questions and performance-based questions should be preferred rather than conventional multiple-choice questions. In addition, students should be given time to evaluate their own progress (Şentürk, 2010). At this stage, the level of learning must be tested, and the entire teaching process assessed. Measurement and evaluation is not an independent and extracurricular activity. In addition, not only what the students do, but also how they do should be measured and evaluated, as well. In the evaluation of students with different interests, skills, and intelligence types, and learning styles; besides the classical exam and test types; open-ended questions, observation forms, interviews, evaluation scales, diaries, portfolios, projects and other tools and methods should be used (Sarı, 2011).

2. Method

In the scope of the study, case study design was implemented with mixed methods. Quantitative and qualitative data obtained in order to determine the effectiveness of the 5E learning model were collected, analyzed, and interpreted together in accordance with the mixed methodology. Mixed method research is defined as a combination of qualitative and quantitative research approaches, methods and techniques for solving a problem and provide more effective suggestions for solving the problem (Johnson and Onwuegbuzie 2004, Creswell 2006, Baki and Gökçek 2012). One of the researchers also works in this high school

as an instructor of English, and actively participates in the design, implementation and evaluation of the course.

2.1. Participants

This study was carried out in a private state boarding school in Bursa. The official name of the high school is hidden in the study on the grounds of information security in accordance with the institutional guidelines. It is a state residential high school, providing aeronautical education at secondary level for students who will go on their education in the same field at university degree after graduation. In the present study, the process of needs analysis is carried out with the participation of all 12th graders, including 204 students in total. All the students who participate in the study are male students at the age of 17. After the need analysis, the course design, implementation and evaluation processes are carried out merely on a selected 12th grade class consisting of 21 students.

2.2. Design of the Course based on 5-E Learning Model

In the scope of the study, the design of the course begins with a comprehensive needs analysis which is performed not only on learners and but also on learning and teaching environment, as well. The basic aim of the needs analysis is to determine the characteristics of the learners and the learning environment and the needs of the learners related to Essay Writing course.

In the state high school, where the study is carried on, 12th graders receive 10-hour English lessons, including 6-hour skill-based lesson, 3-hour basic English lesson, and 1-hour native speaker lesson in each week. In 12th grade, the students receive two writing courses based on writing skill development which are Composition Writing course in the first term, and Essay Writing course in the second term.

Table 1. *Average Amount of Activities during Classes*

<i>12th graders</i>		
<i>English Lessons</i>		<i>10 class hours/week</i>
<i>Basic English Lesson</i>		<i>3</i>
<i>Skill-based Lessons</i>	<i>Reading-Writing</i>	<i>3</i>
<i>(total 6 hours)</i>	<i>Listening-Speaking</i>	<i>3</i>
<i>Native Speaker Lesson</i>		<i>1</i>

Within the Essay Writing course, 3-hour Responsive Essay Writing lesson is redesigned according to the theoretical principals of 5E learning model. In the course design, by taking the needs analysis results into consideration, firstly, Essay Writing course objectives are reviewed and revised. In accordance with the new objectives, 5E learning model phases are followed in sequence and both the process and the outcomes of the implementation are evaluated.

2.2.1. Needs Analysis

Before the design and the implementation of Essay Writing course, a detailed needs analysis is carried out to investigate the learning and teaching environment, and to determine the needs of the learners about the course. For needs analysis the instruments used to for data collection can be listed as Achievement Test, Learning Style Inventory, Interest and Awareness Questionnaire, Focus Group Interview, and Needs Assessment Questionnaire. Based on the findings, derived from this need analysis, the objectives, methods, techniques, materials, achievement tests and other writing skill evaluation tools, employed in the scope of the writing course are reviewed and revised.

According to the findings obtained from the achievement test, although the students can be said to be sufficient in the structural analysis of any given passage, they are found to have some significant deficiencies especially in the organization of essay writing in accordance with any given topic and thesis statement, and in writing well-structured essays in accordance with essay writing principles. For this reason, it would be appropriate to put the emphasis specifically on the activities such as writing thesis statement, brainstorming and arranging writing draft, which are all related to the stage of planning. In addition to this, after teacher presentation on the subject matter, it can be beneficial to devote more time for writing performance; writing in peer and group work, peer and teacher writing evaluation, and rewriting after writing review in order for the students to achieve writing proper and well-structured essays.

The findings obtained from the Learning Styles Inventory analysis indicate the fact that students mostly have “accommodating” learning style (44%), as well as “converging” learning style at a remarkable ratio (29.1%). In order to enable learners who learn by accommodating to learn more meaningfully through active experimentation and concrete experiences and learners who learn by converging by thinking and doing, it would be appropriate;

- to encourage students to do research on the essay type which will be the subject matter of the following lesson and to make analysis on the given sample essay,
- to spare more time for writing skill practice for the students to learn by doing in active experimentation,
- to conduct more peer evaluation-based activities so that students can learn by observing others' faults,
- to give group work and project assignments to lead the students learn in groups,
- to assign writing tasks to guide them to do structural analysis of sample essays,
- to give short-term feedbacks on students’ writing performance to have them recognize their mistakes.

In the light of the findings of the Interest and Awareness Questionnaire analysis, in order to provide more meaningful and permanent learning for students who feel competent in writing and find it easy to write an English essay, it would be appropriate;

- to give regular and timely feedback on their mistakes in essay writing,
- to encourage students to revise their writings and correct their mistakes according to teacher feedback, and to give additional duties and time to write the final drafts,

- to guide students, work in peer and groups to determine and learn from each other's mistakes

In the light of the findings of the focus group interview conducted with the participation of five students who have the highest and lowest scores in the achievement test; it can be said to be more appropriate;

- to make the students analyze sample essays apart from the course book in order not to be too much bound to the book content,
- to select more interesting and enjoyable sample essays according to students,
- to devote more time to utilize technological aids such as smart board and internet in lesson presentation and structural analysis of sample essays, and to rearrange the course accordingly.

In the light of the findings of the Needs Assessment Questionnaire used in the analysis of the learning and teaching environment, at least half of the students can be said to find all the main objectives stated in the questionnaire and all the objectives related to Responsive Essay "very important" and "important" at a high ratio. In addition to that finding, at least half of the students consider themselves "very sufficient" and "sufficient". In this respect, the Essay Writing course does not have a significant lack in achieving the objectives in terms of students' views. In parallel, the Essay Writing course can be said to be sufficient and effective not only in terms of the determined objectives, but also in the methods and techniques employed in the scope of the course according to students' views since they find the activities, generally or frequently carried out in Essay Writing class "very effective" and "effective". According to the findings obtained from the analysis of the Teacher Presentation part of the Needs Assessment Questionnaire, the issues that should be more emphasized in the lessons are listed as follows:

- activities based on the analysis of sample essays related to the subject matter in the classroom environment,
- encouraging students to write essays on their own,
- regular and frequent feedback on students' writing performance,
- peer and group work to ensure interaction between and among students,
- active participation in the lesson in order to provide teacher and student interaction.

2.2.2. 5E Learning Model-based Design of Essay Writing Course

With the motive of the findings of the need analysis, as the Essay Writing course was designed with the 5E learning model. First, the general objectives of the Essay Writing Course and the specific objectives of the Responsive Essay lesson were revised in Table 2.

Table 2. Essay Writing Course Objectives

1. ESSAY WRITING COURSE GENERAL OBJECTIVES	
1.	Knowing the basic terms about Essay Writing
2.	Establishing relations between different essay types
3.	Using the learned knowledge in other writing lessons

4.	Using the learned knowledge outside the school
5.	Applying the principles of Essay Writing in professional business writing
2. OBJECTIVES RELATED TO RESPONSIVE ESSAY	
1.	Understanding the purpose of the Responsive Essay
2.	Brainstorming to compose pros and cons about the article read in the lesson
3.	Discussing the ideas about the essay in group work
4	Outlining the essay draft in accordance with the given thesis statement
5.	Finding a suitable title for the essay
6.	Composing a proper thesis statement appropriate for the type and the purpose of the essay
7.	Organizing the essay in accordance with its type and structure and organization
8	Writing the introduction, development and conclusion paragraphs according to the writing draft
9.	Using transitions and conjunctions properly and accurately in writing
10	Giving proper feedback in peers in terms of Peer Feedback Form
11	Revising the essay according to peer feedback
12.	Thinking critically to correct mistakes in the essay
13.	Making revision decisions to improve the essay
14.	Writing the final draft in accordance with peer feedback
15.	Recognizing the differences between the first and the final draft in accordance with Progress Check Form

2.2.2.1. Engage

In “Engage” stage, the first stage in the 5E Learning Model based lesson, to motivate the students to reach the objective of "using the learned knowledge outside the school and in professional business writing", which is found “very important” and “important” by more than 50% of the students according to the findings of the Needs Assessment Questionnaire, the teacher reminds her students of the fact that they need and use the knowledge and the skills they acquire in the scope of this writing course, not only in further writing classes at university level and in placement or proficiency exams they will undertake after graduation but also in their professional lives, as well. Later on, the teacher presents a writing activity that appeals to the students to break the ices. For this purpose, in order to attract students’ attention, she makes an introduction such as “We read many articles in everyday life, don’t we? Most of these are essays about the subjects we are doing researching on or about current and popular topics. When we read these essays, we often read not only to understand them but also to form our personal opinion which may be positive or negative about the views defended in the essay”. Such an introduction to the lesson can help students remember the essays they have recently read and the judgments they have developed. At this stage, the

teacher offers more than one sample of responsive essay apart from the course book, not to bore students by being too much restricted by the course book and uses smart board and internet to employ more computer technology in parallel to students' expectations and needs, determined by the findings obtained from the focus group interview conducted in the scope of the learners' needs analysis.

2.2.2.2. Explore

In parallel to the findings of the Learning Styles Inventory, in the second stage, the "Explore", the teacher assigns some tasks through which the students with "accommodating" learning style can learn by searching and discovering and the students with "converging" learning style can learn by thinking and doing on their own. In other words, the students are supposed to search for sample responsive essays to present in class and to discuss over with their classmates. In this stage, the teacher steps back and monitor students discussing over and analyzing the sample essays that they search and bring to the class on smart board via internet by providing them timely feedbacks. With this activity, the teacher aims to provide both "accommodating" and "converging" the students with a group work to brainstorm, to develop positive and negative ideas, to discuss positive and negative judgments about the article and to prepare a draft of the responsive essay about the article. Furthermore, the teacher can give her students the chance of learning by self-exploring, researching, thinking and doing within this activity. Additionally, the students have a more intensive study of the planning stage of writing which is found out to be a big challenge for the students according to the results of the achievement test.

2.2.2.3. Explain

The third stage, "Explain", is the only stage in which the teacher is actively involved. She openly, simply and directly explains the basic concepts of Essay Writing such as "Responsive Essay", "Making Reference", "Direct Reference", "Paraphrase", "Citation", and "Bibliography". While she is asking questions to students to check their knowledge on previous essay types, she also describes the structural characteristics and the rules of writing Responsive Essay, the techniques of quoting from any other essay, the rules of citing and writing citation in detail by using visual aids such as an outline on the board.

2.2.2.4. Elaborate

In the fourth stage "Elaborate", students have the opportunity to apply and to practice the structural features and the rules of writing Responsive Essay which are presented and taught in previous lesson. At this stage, the teacher asks students to write responsive essays on the articles they choose and encourages them to give their own products. As students create their own writings, the teacher frequently walks among them to give feedback and to provide interaction. Students exchange ideas with their classmates and form of introductory, supporting and concluding paragraphs. Thus, they have the opportunity to practice writing a well-organized essay in which they are observed to have difficulty in the achievement test, conducted in the scope of needs analysis. This writing task also enables the students who have "accommodating" learning style to learn by discovering and the students with "converging" learning style to learn inductively by forming their writings in gradual steps and more meaningfully through constant teacher guidance and frequent feedbacks.

2.2.2.5. Evaluate

During the fifth and final stage, "Evaluate", the students work in groups and share their essays with their friends. For this purpose, they fill in Peer Feedback Forms about their friends' writings. Moreover, the students are supposed to do critical thinking, correct their writing mistakes, and make revision decisions about their own writings. At this stage,

students can also be provided with a learning activity appropriate for peer and teacher's evaluation that they "frequently" claim to be useful, but "rarely" refer to in class, according to findings from the Interest and Awareness Questionnaire. The bilateral peer feedback activity carried out during the evaluation stage also allows "converging" students to learn from the mistakes of their peers in group work. In this stage, after revising their writings according to their peers' feedback and writing their final drafts, the students finally complete Student Progress Check form to reflect their ideas about their own writing progress and the instruction of the lesson. At the end of the evaluation stage, the teacher collects students' writings to evaluate them according to the Writing Assessment Rubric and to provide feedback in the next lesson.

Within the scope of Essay Writing course which consists of 3 lesson hours in 12th graders' weekly program, the Responsive Essay lesson is carried out in accordance to 3-hour lesson plan (Appendix 1).

2.3. Data Collection Instruments

In order to evaluate the design and implementation of Responsive Essay lesson, achievement tests, peer evaluation, teacher's evaluation, students' progress check, and teacher performance observation are carried out in the scope of Essay Writing course.

- **Achievement Tests:** 12th classes undertake the first and the second Essay Writing exams before and after the implementation of 5E Model-based Responsive Essay lesson as the pre- and post-tests. The first part of the exams consists of the questions related to the given topic such as brainstorming, outlining and writing the thesis statement whereas the students are expected to write a responsive essay in response to a given article in the second part. The achievement levels of the students in the first and the second Essay Writing exams as pre- and post-tests are compared, and the effect of the 5E learning model implementation on the students' writing performance and the success of Essay Writing course is investigated. (Appendix 1)
- **Peer Feedback Form:** Students read their peers' writings critically and reflect their ideas on each other's writing performance on Peer Feedback forms. The students also review their writings according to the feedback, they receive from their peers and revise and rewrite their essays in the final stage of the 5E learning model implementation. (Appendix 2)
- **Teacher's Evaluation:** The teacher evaluates the students' Responsive Essays in student portfolios and provides feedback in accordance with the Essay Writing Rubric. (Appendix 3)
- **Progress Check:** At the end of the course, the students fill out the progress check form and reflect their opinions about their own progress in writing and the instruction of the lesson. (Appendix 4)
- **Teacher Performance Observation:** The researcher observes her colleague's teaching performance during Responsive Essay lesson and completes the Teacher Performance Observation Form to convey her opinions about her performance in teaching Responsive Essay lesson and implementing 5E learning model. (Appendix 5)

Peer Feedback Form for peer evaluation, Essay Writing Rubric used by teacher to evaluate students' writings and Teacher Performance Observation Form, filled out by the researcher according to her observations on the teacher's performance during Responsive Essay

instruction are the data collection tools used to collect data in the scope of process evaluation (formative evaluation). For peer evaluation, students share their responsive essays with their class mates in peer-work groups. In addition, students fill out Peer Feedback Forms to evaluate their peers' writings and give feedback on their performances. In parallel, one of the researchers in the study who actively contributes to the design, implementation, and the evaluation of the course also monitors students' progress in writing by giving them timely feedback about their performance while they are doing writing practice according to the essay writing rules they learn.

In terms of summative evaluation, the tools used for data collection can be listed as teacher's evaluation of students' final drafts of writing, the 2nd Essay Writing exam used as the post-test, and students' progress check at the end of the lesson. After Responsive Essay lesson, the teacher evaluates students' responsive essays included in students' portfolios in accordance with the criteria stated in Essay Writing Rubric. In this way, the teacher can also evaluate the outputs of 5E learning model implementation. In addition to this, in order to determine the effect of 5E Learning Model implementation in Essay Writing Course on students' writing performance and achievement level, a comparative analysis is done in between the 1st writing exam as pre-test and the 2nd writing exam as post-test. Furthermore, for the purpose of the summative evaluation, the students additionally fill out the Progress Check Form in which they put forward their own progress and their personal opinions on the instruction of writing lesson.

2.4. Data Analysis

In order to evaluate the 5E learning model implementation, 2nd Essay Writing exam, applied to the 12th graders as post-test is analyzed in SPSS in terms of students' average scores from each part of the exam, students' achievement levels and exam's coefficient of difficulty. In addition to this, paired sample t test is applied to the 1st and 2nd Essay Writing exams as pre- and post-tests to compare the achievement levels of students before and after 5E Learning Model implementation and to determine the effect of 5E Learning Model implementation on students' achievement levels and essay writing performance. Apart from this, other qualitative data collection tools (peer and teacher's evaluation, students' progress check forms, and teacher performance evaluation) used to evaluate Responsive Essay lesson are all subjected to content analysis.

3. Findings and Discussion

In order to investigate the effect of the 5E Learning Model implementation on the achievement level of the students' in Essay Writing course, a 3-session 5E Learning Model-based Responsive Essay Writing lesson, which is 120 minutes long is conducted in 2nd section of 12th grade. Before and after the implementation, students undertake 1st and 2nd Essay Writing course exams as pre-test and post-test which are subjected to a comparative analysis via paired sample t-test as shown in Table 3:

Table 3. Paired Sample T-Test Results related to the Comparison between 1st and 2nd Essay Writing Exam Scores (Pre- and Post-tests)

Tests	N	X	sd	X ₁ - X ₂	df	t	P	Significance
pre-test	23	68,42	18,57					
post-test	23	73,68	14,30	-5,250	22	-3,928	0,0007	*

• p<0.05

As it can be seen in Table 3, according to the results of paired sample t-test conducted in between the pre-test and post-test, the pre-test score on writing achievement is $X_1 = 68,42$ whereas the post-test score is $X_2 = 73,68$. The difference in between pre- and post-test scores $X_1 - X_2 = -5,250$ is found significant at a confidence level of $\alpha = 0.05$ [$t(22) = -5,250$; $p < 0.05$]. This result, showing an increase in the writing scores of experimental group students can prove that the treatment, the Essay Writing Course based on 5E Learning Model implementation which is carried out in between pre- and post-tests leads to a significantly positive effect on writing skill development and achievement levels of the students. Moreover, in the Essay Writing exam applied as a post-test, the students are observed to have a significant improvement in the parts; brainstorming, writing drafts, and writing the thesis in the given topic when compared to their performance in the pre-test. In parallel, in the second part of the achievement test, in which they are supposed to write a responsive essay in response to a given article, the students can be said to write more precise and regular essays, and also make more appropriate and precise references to the given article in their essays.

According to peer feedback forms, most of the students can be said to consider that their peers are able to do more effective brainstorming and eventually write more impressive introductions for their essays after the implementation of the course design. They also report about their peers' writings that the planning part is well organized, and the content is composed of rich expressions, taken by real life situations. In addition, the students emphasize that they can also expand their own knowledge on the content matters as their peers express their thoughts and knowledge very well in their essays. On the other hand, they also criticize some of their peers and claim that they need to improve the content of their writings.

At the end of the course, the students also fill out the student progress forms and convey their opinions on their progress in essay writing and on the instruction of course. In progress check form, the students are required to write their opinions on their writing progress in four basic parts such as "Things I do well in writing responsive essay", "Things I need to improve in my further writing", "Ways to improve my writing", and "Things my teacher has better do to help me improve my writing". In the first part of the form, "Things I do well in responsive essay writing", students generally state that they can write better organized essays including introductory, development and concluding paragraphs within a detailed content. Additionally, they claim that they are more interested in writing essays and better at expressing their ideas. In addition to these, they think that they accomplish the brainstorming, outlining and planning parts of essay writing effectively. They also state that they determine the problem more easily during the planning part of essay writing. In particular, they point out that their texts are integral and that each part of the text is related to the other parts. In the second part, "Things I need to improve in my further writing", they state that they should be a bit more careful in writing the thesis statement. On the other hand, they emphasize the necessity of using transitional phrases more properly and frequently in further writing activity. Moreover, they emphasize the need to use richer expressions in content. In "Ways to improve my writing" part, they report that the receiving timely feedback from their teacher and peers is the most efficient way to improve their writing. In addition, they say that they develop their writing skill not only by writing practice, but also by reading books, as well. Furthermore, they point out the importance of teacher's teaching style, the effectiveness of the material used, the clues learned in lessons, and more writing practice in improving writing skill. In parallel, the students share the idea that planning has a crucial importance in Essay Writing class. They also think that it is easier and more impressive to write essays after a careful and rational planning. Additionally, they state that the technique employed by the teacher in the course has a great effect on their writing skill development. Related to the final part, "The

things my teacher has better do to help me improve my writing”, they state that their teacher has better spare more time for the structural analysis of sample essays, and also use more varied and more interesting sample articles. It is also reported that she has better put the emphasis on writing thesis statement and assign more writing tasks to the students as they think they need more writing practice. On the other hand, they state that their teacher should give more frequent feedback on their essays.

In order to evaluate the writing performance of the students, the teacher collects the responsive essays, written and evaluated by the students at the end of the course. She evaluates the writings according to the criteria, stated in the Writing Assessment Rubric, in terms of form, content and organization. According to her evaluation, although the students can make references from the article, and write its citation accurately in form, they still have some difficulties in making meaningful references in accordance with the opinions, they defend in their essays. The students can also be said to be able to organize better introductions, developments, conclusions and use more appropriate and frequent transitions in their essays when compared to their performance in previous essay types.

The researcher completes the teacher performance observation form used in the institution to evaluate the performance of the Essay Writing course teacher who applies the 5E learning model. In this part, the teacher is evaluated according to an evaluation form consisting of 20 factors in total. To begin with, the teacher presents a reassuring, willing and vigorous appearance. Besides, she achieves to grab her students’ attention with a good ice breaker, and effectively addresses the name and purpose of the subject matter. The preparation and the use of teaching tools, educational equipment, and other instructional technologies are satisfactorily evident. In addition, the lesson is properly designed in accordance with the instructional steps of 5E learning model which are all mentioned in detail in the course plan. The teacher's constant eye contact with her students, the effective use of voice and body language, accuracy in pronunciation, and in the knowledge of subject matter, and fluency in presentation are evident all throughout the lesson. The teacher can also provide satisfying answers to the students' questions and gives them clear and on time feedbacks. In particular, the teacher effectively employs 5E learning model in teaching essay writing in accordance with the timing and sequence of the lesson plan.

4. Results and Recommendations

In this research, it is aimed to increase the achievement level of 12th graders in Essay Writing course through 5E teaching model-based course design and implementation. Despite the fact that 5E Learning Model theoretically lacks a needs analysis part, a comprehensive needs analysis is done in the beginning of the present study in order for a better and a more effective course design and instruction. According to the results of this needs analysis, a design-based research is carried out in order to increase the achievement levels of the 12th grade students in essay writing. The objectives, the design, including methods, techniques, and materials, and the implementation and evaluation of the course are all re-determined in accordance with the qualitative and quantitative data, collected in the needs analysis section of the research. In the design section of the study, the course is redesigned on the basis of the instructional steps and principles of 5E learning model according to the results, driven from the needs analysis. The implementation of the redesigned course, consisting of 3 lesson hours lasts 120 minutes in total. The evaluation of the design is done via achievement tests, peer evaluation, students’ progress check, teacher’s evaluation of students’ writings, and teacher performance observation. Through this detailed evaluation of the course design, the contribution of the 5E Learning Model-based Essay Writing Course implementation and instruction to 12th graders’ achievement levels in Essay Writing lesson is determined.

When the results of the Essay Writing achievement tests applied before and after the 5E Learning Model implementation are taken into consideration, there can be said to be a significant increase in student achievement level in Essay Writing course. Likewise, according to the results, obtained from the descriptive analysis of the students' peer feedbacks in which the students evaluate their peers' writing performance and their own progress in writing, 5E Learning Model implementation can be said to contribute to the writing skill development of the students.

Determining the learning environment and student characteristics with the needs analysis, knowing the individual learning styles, and the needs, opinions and expectations of the students about the lesson and instruction, determining the students' weaknesses and the aspects of the lesson that should be more emphasized, identifying the needs, and realizing the new course design and implementation are all proven to contribute to this significant development in Essay Writing performance.

In this regard, in the light of the findings obtained from all the data collected and analyzed within the scope of the study, some factors can be put forward to be reasons for students' improvement in writing, especially in brainstorming, writing the first and final drafts, writing thesis statement, making accurate references, and writing citation related to the 5E Learning Model-based design and implementation of Essay Writing course. Teacher's presenting more responsive essay samples apart from the course book in the "Engage" part of the lesson, using smart board more effectively in the "Explore" part of the lesson, giving the students especially the ones with "accommodating" learning style the chance to explore features of responsive essay type on their own in "Explore" part of the lesson before teacher presentation, giving more time to students for planning and writing responsive essay in "Elaborate" part, and providing the students especially the "converging" type of learners with short-term teacher feedback can be stated as the main reasons for students' improvement which are based on teacher. In addition, the students' learning more permanently and meaningfully from their peers' mistakes and corrections in "Elaborate" part via peer feedback and constant interaction, reviewing and revising the first drafts in class, and timely and well-planned peer evaluation in "Evaluation" part of the lesson can be stated to be the reasons initiating from the students themselves for their improvement in essay writing.

Basically, in this study, the Essay Writing course is redesigned after identifying the expectations about the course through needs, learners, and learning environment analysis. Within this design, based on 5E Learning Model, it is concluded that students will transfer the knowledge and competences they acquire in English Essay Writing course to real life and their professions. For this reason, in order to increase the interest and the success of students in writing classes, to improve students' writing skill, and to make writing lessons more useful and productive, some suggestions can be made. Firstly, before the design and implementation of any writing course, a needs analysis should be carried out for learners' and learning environment analysis, and the findings should be taken into account during the course design, implementation and evaluation. Moreover, learners' individual learning styles should be identified via varied data collection instruments and appropriate methods, techniques, and activities, appealing to different learners should be employed in lessons. In addition to this, the students' views on their own performance and the instruction should be taken into consideration before and after the implementation, and the course design and implementation should be reshaped in accordance with students' expectations. Students should also be encouraged to write on their own as the practice of each essay type, learned in lesson. In parallel, peer and teacher feedback and evaluation should be given an important place in every writing lesson, and different feedback and evaluation forms should be developed. Furthermore, students should be provided with as many writing examples as possible from

different sources besides the basic course book in the writing lesson. Additionally, teacher presentation should be limited as much as possible, so writing lesson should mainly be focused on student performance, feedback and evaluation. Lastly, instructional technologies, such as smart board and internet should be used as frequently as possible in order to be compatible with the ever-evolving technology so that the constant interest of young learners can be provided.

5. Conflict of Interest

The authors declare that there is no conflict of interest.

6. Ethics Committee Approval

The authors confirm that the study does not need ethics committee approval according to the research integrity rules in their country.

References

- Aşkar, P ve Akkoyunlu, B. (1993). Kolb Öğrenme Stili Envanter. Eğitim ve Bilim, 87: 37-47.
- Baki, A., & Gökçek, T. (2012). Karma Yöntem Araştırmalarına Genel Bir Bakış. Elektronik Sosyal Bilimler Dergisi, 11(42), 1-21.
- Creswell, J. W. (2006). Understanding Mixed Methods Research, (Chapter 1). http://www.sagepub.com/upm-data/10981_Chapter_1.pdf
- Deniz K, (2000). Yazılı Anlatım Becerileri Yönünden Köy ve Kent Beşinci Sınıf Öğrencilerinin Durumu. Basılmamış Yüksek Lisans Tezi, Çanakkale Onsekizmart Üniversitesi Sosyal Bilimler Enstitüsü, Çanakkale.
- Ekici, G. (2003). Öğrenme Stiline Dayalı Öğretim ve Biyoloji Dersi Öğretimine Yönelik Ders Planı Örnekleri. Ankara: Gazi Kitabevi.
- Ergür, D.O. (1998). H.Ü. Dört Yıllık Lisans Programlarında Öğrenci ve Öğretim Üyelerinin Öğrenme Stillerinin Karşılaştırılması. Yayınlanmamış Doktora Tezi, Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara: Türkiye.
- Gökalp G, Gonca A., (2001). Derslikten Günlük Yaşama Edebiyat Eğitimi. Türkbilig 2000/I-Türkoloji Araştırmaları. Ankara. ss: 185-202.
- Guild, P.B. ve Garger, S. (1991). Marching to Different Drummers. USA: ASCD.
- Hasırcı Ö.K. (2006). Sınıf Öğretmeliği Öğrencilerinin Öğrenme Stilleri: Çukurova Üniversitesi Örneği. Eğitimde Kuram ve Uygulama Dergisi, 2 (1): 15-25.
- Herrington, J., McKenney, S., Reeves, T., & Oliver, R. (2007). Design-based research and doctoral students: Guidelines for preparing a dissertation proposal.
- İnal S, (2006). İngilizce Yazılı Anlatım Dersinin Sorunları Üzerine Bir İnceleme, Journal of Language and Linguistic Studies Vol.2, No.2, October.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. Educational Researcher, 33(7), 14-26.
- Kılıç, E. (2002). Baskın öğrenme stiline öğrenme etkinlikleri tercihi ve akademik başarıya etkisi. Eğitim Bilimleri ve Uygulama, 1 (1): 1-15.
- Kolb, D.A. (1984). Experiential Learning: Experience as the Source of Learning and Development. New Jersey: Prentice-Hall.
- Kolb, D. A., Boyatzis, R.E., Mainemelis, C. (1999). Experiential learning theory: previous research and new directions. www.learningfromexperience.com
- Kuzu, A., Çankaya, S., & Mısırlı, A. (2011). Tasarım tabanlı araştırma ve öğrenme ortamlarının tasarımı ve geliştirilmesinde kullanımı. Anadolu Journal of Educational Sciences International, 1(1), 19-35.
- Murcia, C. (1991). Teaching English as a Second or Foreign Language, Heinle&Heinle Publishers, Massachusetts.
- Reeves, T. C. (2000). Enhancing the worth of instructional technology research through “design experiments” and other development research strategies. International perspectives on instructional technology research for the 21st century, New Orleans, LA, USA.
- Sarı, R. (2011) Eğitimde IAHL 11İ Modeli, Işıklar Askeri Hava Lisesi Burç Dergisi. Sayı:2.

Şentürk, C. (2010) Yapılandırmacı Yaklaşım ve 5E Öğrenme Döngüsü Modeli, Eğitime Bakış Dergisi. Sayı:17.

Appendix 1- Responsive Essay Lesson Plan

Course Title:	Essay Writing
Grade:	12th Grade-2nd Section
Name/Number of the Unit:	Responsive Essay / Unit 5
Subject:	How to Write a Responsive Essay
Suggested time:	120 minutes
PART 2	
Learning Outcomes:	<ol style="list-style-type: none"> 1. Understanding the purpose of writing Responsive Essay 2. Brainstorming to create positive and negative ideas about the article, read. 3. Discussing the ideas about the essay in group work 4. Outlining the essay draft according to the thesis statement 5. Giving an appropriate title to the essay 6. Composing thesis statement suitable for the essay and its purpose 7. Organizing the essay in accordance with its type, purpose and structure 8. Writing the introduction, development and conclusion paragraphs in accordance with the writing draft 9. Using transitions and conjunctions properly and accurately while writing 10. Giving proper feedback in peers in terms of Peer Feedback Form 11. Revising the essay according to peer feedback 12. Thinking critically to correct mistakes in the essay 13. Making revision decisions to improve the essay 14. Writing the final draft in accordance with peer feedback 15. Recognizing the differences between the first and the final draft in accordance with the Progress Check Form
Basic Concepts:	Responsive Essay, Reference, Direct Reference, Paraphrase, Citation, Bibliography
Teaching Methods and Techniques:	Presentation, invention, question-answer, group work

Materials, Tools and Sources:	Smart Board, the articles compiled from the sites: www.nytimes.com www.educationnext.org www.newscience.com Writers at Work-The Essay 21st Century Reading-Reading Passages Peer Feedback Form Progress Check
PART 3	
Engage:	<ol style="list-style-type: none"> 1. The teacher motivates the students by reminding them of that they would need and use the knowledge and the skills, they acquire in this course, in placement and proficiency exams after graduation, in writing courses at university level, and in professional writings in business life. 2. The teacher gets the students' attention: "We read many articles in our everyday life, don't we? Most of these are articles about the subject we are researching or about current and popular topics. When we read these articles, we often read not only for the meaning but also the positive or negative reading of the views defended in the article to create our own ideas". 3. The teachers provides more than one articles and samples of Responsive Essay using technological aids such as smart board. (<i>Activity 1 Article / Sample Responsive Essay</i>) -10'
Explore:	The teacher steps back and observe the students discussing over and analyzing different articles, they bring to class, on the smart board by providing timely feedback. By means of this guided discussion, students perform a group activity in which they can brainstorm and develop positive and negative views about the articles, to analyze the structure of the sample essays, to write the first draft, and to find an appropriate topic for it. (<i>Activity 2 Brainstorming-Outlining</i>) -15 '
Explain:	Teacher presents the basic concepts such as "Responsive Essay", "Making Reference", "Direct Reference", "Paraphrase", "Citation", and "Bibliography". Furthermore, she not only describes the structural features of Responsive Essay on a sample outline on board, but also explains the techniques of making references, the proper formats of making citations, and the rules of writing bibliography in

	APA or MLA styles, as well. -15'
Elaborate:	Students are encouraged to write the first draft of responsive essay in order to reinforce and improve their knowledge and skills in writing. (<i>Activity 3 Writing Responsive Essay</i>)- 30'
Evaluate:	<p>In order to review what they've learned throughout the lesson, the students:</p> <ul style="list-style-type: none"> • read their peers' writing drafts critically, -10' • reflect their thoughts on their peers' writing by filling out the Peer Feedback Form, (<i>Peer Feedback</i>) -15' • revise their own writings in accordance with their peers' feedback, (<i>Revision Decisions</i>) -15' • evaluate their own writing progress and the instruction of the lesson by filling out the Progress Check Form. (<i>Progress Check</i>) -10'

Appendix 2 - Peer Evaluation Sheet

PEER FEEDBACK FORM

Writer's name: _____ Date: _____

Reviewer's name: _____

1 Underline the thesis statement twice.

2 Answer these questions about the introduction. Mark each box or .

- Does the introduction have an interesting hook?
- Does the introduction include background information?
- Does the thesis statement tell you the topic and the writer's opinion?
- Is there a sentence that shows the scope of the essay?

3 Underline the topic sentence of each body paragraph.

4 How many quotes did the writer use? _____
How many times did the writer paraphrase information? _____
Are citations included in parentheses? _____

5 How was the balance between the information from the article and the writer's own opinions? Mark each box or .

- too little information from the article
- just enough information from the article
- too much information from the article
- too few of the writer's own opinions
- just enough of the writer's own opinions
- too many of the writer's own opinions

6 What do you think was the writer's strongest argument? What was the writer's best support for that argument?

7 Draw a star (★) in the margin by your favorite sentences. Write a question mark (?) in the margin next to any sentences you didn't understand.

8 Any other comments: _____

Appendix 3 - Essay Writing Rubric

	Excellent	Good	Fair	Poor
Introduction	Introduction refers specifically to the work(s), addresses the topic directly, and has a clear thesis statement.	Introduction refers specifically to the work(s), addresses the topic, and has a clear thesis statement.	Introduction makes some reference to the work(s), attempts to address the topic, and has a fairly clear thesis statement.	Introduction makes little reference to the work(s), poorly addresses the topic, and has an unclear thesis statement.
Body Paragraphs	Body paragraphs contain clear topic sentences, support the thesis, and are exceptionally well-organized.	Body paragraphs have topic sentences, support the thesis, and are fairly organized.	Body paragraphs support the thesis, attempt to address the topic, and are fairly organized.	Body paragraphs do not sufficiently support the thesis and are not organized.
Examples	Examples are specific, sufficient, and significant; they are clearly explained and connected directly to the thesis.	Examples are specific, sufficient, and reasonably well-explained; they support the thesis.	Examples and explanations are fair and/or insufficient; they provide some support to the thesis.	Examples and explanations are unclear and insufficient; they provide little support to the thesis.
Conclusion	Conclusion clearly restates the thesis, reinforces the major points and makes a broader statement about the topic.	Conclusion sums up the thesis and reinforces it well.	Conclusion does not fully sum up or reinforce the thesis.	Conclusion sums up the thesis poorly with little reinforcement.
Conventions (Spelling, Grammar and Punctuation)	Spelling, grammar, and punctuation are accurate and nearly perfect.	Spelling, grammar, and punctuation are mostly accurate with few errors.	Spelling, grammar, and punctuation are fair with some obvious errors.	Spelling, grammar, and punctuation are poor with frequent errors.
Word Choice	Language is precise and well-chosen; sentences are rich and varied.	Language is well-chosen; sentences are varied.	Language is fair; some sentence variety.	Language is poor, little sentence variety.
Audience and Purpose	Audience and purpose are clearly evident.	Audience and purpose are evident.	Audience and purpose are discernible.	Audience and purpose are not apparent.

Appendix 4 - Student Observation Form

PROGRESS CHECK
Date:
Essay Title:
Things I did well in this essay:
Thing I need to work on in my next essay:
How did you improve your writing in this essay?
Things your teacher needs to do to contribute your understanding of Essay Writing lesson and your writing improvement:

Activity 1. Article / Sample Responsive Essay

Article 1

The following article on the vulnerability of citizens' personal information is adapted from an article that first appeared in *Forbes* magazine on November 29, 1999. It was accessed at <http://members.forbes.com/forbes/1999/1129/6413182a.html> on February 25, 2007.

The End of Privacy

Adam L. Penenberg

The phone rang and a stranger sang at the other end of the line: "Happy Birthday to you." That was spooky* – the next day I would turn 37. "Your full name is Adam Landis Penenberg," the caller continued. "Landis?" My mother's maiden name*. Then Daniel Cohn, Web detective, told me the rest of my "base identifiers" – my birth date, address in New York, Social Security number*. Just two days earlier I had issued Cohn a challenge: Starting with my byline*, find as much information about me as you can. "That didn't take long," I said.

"It took about five minutes," Cohn said. "I'll have the rest within a week." And the line went dead.

In all of six days, Dan Cohn and his Web detective agency, Docusearch.com, shattered* every notion I had about privacy in this country. Using only a keyboard and the phone, he was able to uncover the innermost details of my life – whom I call late at night; how much money I have in the bank; my salary and rent. He even got my unlisted phone numbers*, both of them.

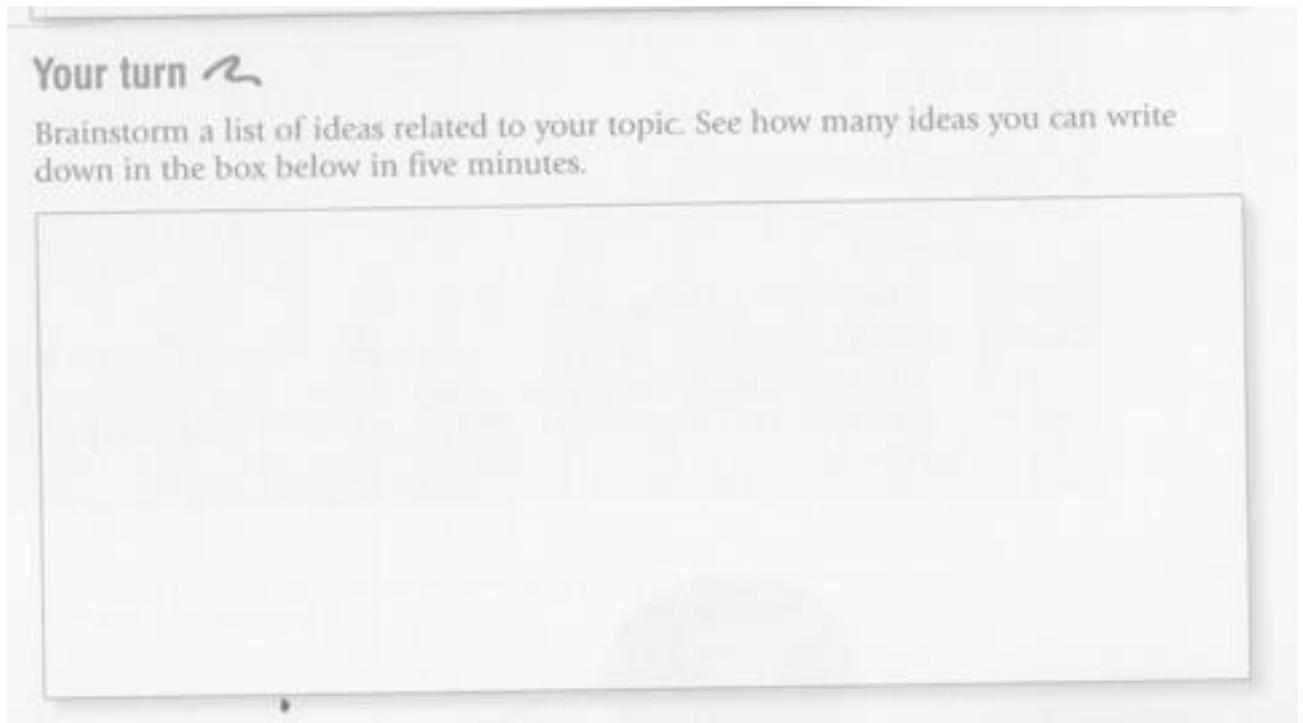
For decades, information like this was kept in large mainframe computers that were difficult to access. The move to desktop PCs and local servers in the 1990s distributed these data far and wide. Computers now hold half a billion bank accounts, half a billion credit card accounts, hundreds of millions of mortgages and retirement funds and medical claims, and more. The Web links it all together.

As e-commerce grows, marketers and busybodies* can access more consumer data than ever before. It's far worse than you think. Advances in search techniques and the rise of massive databases leave you vulnerable.* The spread of the Web is the final step. It will make most of the secrets you have more instantly available than ever before, ready to reveal* themselves in a few taps on the keyboard.

You may well ask: What's the big deal? We consumers are as much to blame as marketers for all these loose data. We have willingly given up some privacy in exchange for convenience; it is why we use a credit card to shop, even though it means we receive more junk mail. Why should we care if our personal information isn't so personal anymore?

continued

Activity 2: Brainstorming / Outlining



Activity 3: Writing Responsive Essay

TITLE

INTRODUCTION: Hook _____

Thesis Statement _____

DEVELOPMENT: Topic Sentence I _____

Topic Sentence II _____

CONCLUSION: Tie back to thesis _____

Closing Thought _____