

# Implementing A Student-Centered Integrative Curriculum into College English Project Instruction

## 探討以學生為中心的統整課程 在大專英文專題教學上之應用

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**Abstract :** In recent years, educators in both the States and Taiwan have witnessed a virtual explosion of interest in integrated curriculum and instruction. The purposes of this study were to introduce Beane's student-centered integrative curriculum into college English project instruction through which the process of planning, implementing, evaluation and the end results of it could be presented to reveal its benefits, disadvantages, cautions and challenges. The findings suggested that it was worthwhile to try integrative curriculum for EFL students. Besides, based on the results, such as students' difficulties in writing projects and finding comprehensible reading texts for EFL beginners, pedagogical implications and suggestions were proposed for the teacher to revise the approach when it is implemented in EFL contexts.

**Keywords :** student-centered learning, integrative curriculum, college English, project instruction

**摘要 :** 本研究的目的是探討以學生為中心的統整課程在大專英文專題教學上之應用，包括統整課程的規劃及實施過程，和學生的學習成果及對統整課程與教學的評價。研究結果顯示，統整課程在英文教學上之應用是值得嘗試的。而對於學生在專題寫作上的困難，及不易尋找適合其閱讀能力的資料，本研究最後也提供些許教學建議及方法。

**關鍵詞 :** 以學生為中心的學習、統整課程、大專英文、專題教學

## 1 INTRODUCTION

In recent years, educators in both the States and Taiwan have witnessed a virtual explosion of interest in integrated curriculum and instruction. More and more educators, as well as the public-at-large, have recognized the knowledge cannot be separately learned from distinct subjects to solve increasingly complex demands on a daily basis. In order to reflect life, that is, to function adequately in this information-explosive world, integrating

curriculum seems to be one of the most promising approaches to involve students in a more meaningful, authentic, contextualizing and accessible learning environment (5). Besides, it provides students the opportunities to see more clearly how one content knowledge is related to another and how each can complement the other to solve both simple and complex problems in the real world (29).

Enthusiasm for the integration movement has enticed a number of educators to define and outline different frameworks for creating an integrated curriculum. Differences among a variety of terms such as multidisciplinary, integrated, interdisciplinary or thematic teaching, however, are unclear due to its complexity and some terminologies just created by advocates themselves (36). Planning and implementation, moreover, were reported to be difficult given some critical factors such as lack of planning time, scheduling of students and disagreement with the concept of an integrated curriculum (21, 22). These problems appear to be related to team teaching or peer collaboration which is one of predominant features underlying integrated curriculum.

Implementing integrated curriculum in Taiwan, likewise, has encountered the above dilemmas. The evidence showed that team teaching may be one of the primary impediments in successfully integrating curriculum and instruction (26). To continue and improve integrated curriculum in Taiwan educational context, an integrative model proposed by Beane (4, 5) can be an alternative approach to make it more effective, realistic and applicable in that it focuses more on students than on teacher collaboration. Beane's integrative framework, furthermore, is particularly more appropriate for young college students in this study than other models given that its curriculum centers on students' concern about themselves and the world, and it has been successfully applied in adolescent curriculum (2, 4, 6, 14, 34, 36). Finally, Beane's model is parallel with the mainstream of EFL teaching approach, that is, communicative language teaching (CLT). CLT, which has been promoted by Ministry of Education and is introduced in every level of language classrooms, also highlights the significance of student centeredness and learning authenticity (7). To echo with the current education tenets of integrated curriculum and EFL teaching approach, Beane's framework is one of sound theory-based and strategy-specific models to improve English teaching and learning in Taiwan.

The purposes of this study were to introduce Beane's integrative curriculum into a college EFL program through which the process of planning, implementing, evaluation and the end results of it could be presented to reveal its benefits, disadvantages, cautions and challenges in order to improve integrated curriculum in foreign language education. This research particularly targeted the following questions for investigation:

1. What were the difficulties that EFL students encountered in the integrative curriculum?
2. What were the benefits that EFL students acquired in the process of learning?
3. What were the outcomes that EFL students performed?

4. What were the challenges that the teacher confronted in the process of negotiating curriculum with students?

## **2 LITERATURE REVIEW**

### **2.1 The History of Integrated Curriculum**

As a matter of fact, integrated curriculum is not a new concept. Studies indicated that as early as 1916 (12), Dewey and others encouraged more active consideration of the school's role in involving students' learning about democratic way of life. In 1938, he further criticized the narrowness of knowledge embedded in discrete disciplines (13, 16). Around the same decade when Dewey advocated, Kilpatrick in 1918 (25) published his influential paper, "The Project Method", in which he called for a curriculum rising out of student interest and idea to bring their personal, social and democratic learning together with the problem-based project as a context for integrating knowledge (5). Along with the above pioneering voices for integrated curriculum, progressivists in the field of education also expressed concern over the fragmentation of the curriculum due to the separate-subjects approach (17).

To respond to this concern, the "Eight-Year-Study" in the 1930s conducted by the Progressive Education Association recorded the positive effects of integrated education (16). It discovered that graduates of integrated high school curriculum usually did better in college than those from traditional departmentalized curriculum, both in terms of academic achievement and in extracurricular performance. In addition, graduates of the most student-centered programs progressed more in college than those from programs that devoted superficially and sparsely to integrated approach. Despite the encouraging findings, none of these observations had a momentous impact on the American educational structure of the curriculum in that generation.

### **2.2 Types of Integrated Curriculum**

Only the past two decades were educators aware of the ineffectiveness of discrete-disciplines approach at engaging students in real and useful learning. For this reason as well as others, as the world advanced toward the twenty-first century, the idea of an integrated curriculum is discussed fervently with the evidence of a variety of integrated models proposed by numerous educators (4, 5, 10, 15, 16, 18, 19, 31). Each model presented by these advocates offers a different set of parameters for teachers to implement integrated curriculum within the classroom.

Let us take Drake's three frameworks for creating an integrated curriculum as an example (16). The first level is a multidisciplinary approach, in which a selected theme is the focus and is imparted to different discipline. The boundary between the subjects is still visible; therefore, there is no "lose" of content in the subject area and each teacher is still

very much in control of what is taught. The second level is an interdisciplinary approach that focuses on commonalities among various subjects and is designed and developed upon different activities such as research and drama or skills like problem solving or critical thinking. The highest levels is a transdisciplinary approach in which subjects are transcended through a life-centered curriculum and studied by means of problem-based, story-centered, collaborative or reality learning to integrate various knowledge. Content within the subject in the approach takes a back seat and is not explicitly taught.

Drake's model is probably one of the most recognized and comprehensive integrated frameworks. The differences among the degree of integration in each approach, however, are somewhat unclear. The subtle distinctions among each level of integration are especially complicated in Fogarty's model with a ten-step continuum (19). Pattus (31), therefore later, made an effort to simplify Fogarty's model into a four-level framework. To date, the terms like multidisciplinary and interdisciplinary are usually used to refer to specific curriculum design, but the distinctions between them are still not apparent and usually involve certain extents of team teaching.

### **2.3 Beane's Integrative Curriculum**

Beane's model is one of transdisciplinary approaches according to Drake (16). Beane, however, used "integrative" to replace "integrated" to indicate that none of multidisciplinary, interdisciplinary or cross-disciplinary (transdisciplinary) curriculum is true curriculum integration in that they are usually a realignment of the existing subjects and are not a student-centered approach in nature (5). As Beane and other educators (8, 19, 21) suggested that a number of factors have converged to contribute the idea of integration some profound forces, for example, the importance of application of knowledge rather than merely memorization, the exploration of the way the brain functions in learning, the social process of knowledge construct and a serious interest in progressive educational concepts, the last factor illustrates the notion of student-centered approach. Meanwhile, it characterizes Beane's integrative curriculum, which includes thematic teaching, problem and project-based methods, social problem focus, democratic education and "whole learning" ideas. The process of student engaging in the curriculum, however, is not found in other models of integrated curriculum according to Beane (5) given that the latter ones are usually planned and designed by teachers and other educational bureaucrats.

Beane initiated his integrative model in middle school levels in that he considered adolescents to be seen as real human being participating in the world and to have serious concerns about both the world and their own adolescence. Therefore, their questions about themselves often reflect personal versions of a larger-world concern. By theme discussion, critical skills such as communication, problem-solving, research and social action can be developed to organizing an integrative curriculum for adolescents (4).

The major feature of it is the process of collaborative planning with students. A typical integrative unit begins with the students listing questions about themselves and their world and then identifying a number of themes the questions indicated. Then they select one theme by voting and develop related concepts. Finally the group brainstorms ideas about possible activities they might undertake to answer questions related to it. Then the unit gets underway. In the integrative unit conducted by Marquette Middle School in Madison, Wisconsin, for instance (3), *living in the future* was the selected theme, and following concepts such as technology, community, lifestyles and personal were developed. Questions like “What new invention will be made?”, “Will I go to college?” and “How much is the world going to change?” and such activities seeking to answer them as “Make a time capsule with predictions for self and world”, “Find out how popular technologies were invented” and “Create models of inventions for the future” were brainstormed by the groups of the students.

In the process of negotiating curriculum, some cautions need to be noticed (5). First, a sense of community and trust needs to be built between the teacher and students because some of them would be suspicious about being invited in the process. Second, the planning process is issue-centered not interest-focused in its organization. Therefore, the selection of themes does not emerge from whimsical interests of young people but from their concerns. Finally, the role of the teacher should be redefined from knowledge gatekeeper and meaning maker to guider and facilitator. Here the obligations the teacher assumes are to help young people do their own integrating to bring participatory democracy to life. Thus, the prerequisite for teachers to implement the integrative curriculum is to believe and respect students’ abilities.

#### **2.4 Effects of Integrated Curriculum and the Needs for Alternative Assessment**

In addition to the positive effects suggested in the “Eight-Year-Study”, numerous studies have confirmed the effective results of integrated curriculum and were summarized by Arhar, Johnston and Markle (1) and Vars (35, 36). Research conducted over more than 60 years suggested the same general conclusion that students in integrated curriculum did as well as and often better than those in traditional separate-subjects programs. The positive effects, however, often referred to academic achievement measured by standardized tests. As Caine and Caine (9) and Drake (16) claimed that the ideas of integrated curriculum are to improve students’ higher-order skills, for instance, communication, problem-solving and critical thinking, standardized tests seem not an appropriate tool to evaluate these implicit outcomes. Alternative assessment, therefore, is considered to be more proper to measure other but critical benefits of integrated curriculum, such as those mentioned above and motivation, interpersonal skills and attitudes as well.

### 3 METHOD

#### 3.1 Participants and Setting

35 college students participated in this study. They were second graders enrolled in the Department of Applied Foreign Languages at a large suburban college in the southern Taiwan. They were high beginning English learners and had few experiences in integrative curriculum, project method and alternative assessment.

This study was conducted in a class entitled *English Vocabulary and Reading*, which was a requirement for the students. Classes were scheduled from 9:20 to 12:10 every Friday. This course addressed the cognitive, strategic, motivational and affective dimensions of reading. The objectives of the course were designed to help students develop their English vocabulary and reading proficiencies which reflect current reading theory, with an emphasis on reading process, meaning construction, metacognitive knowledge and strategies, word identification and vocabulary knowledge, reading attitudes, habits and ownership. That is, students were expected to be able to read, comprehend, interpret, evaluate and use written materials (State Goal for Language Arts in Illinois State Board of Education, 1985).

To reach the above learning objectives, students were required to respond to a variety of reading materials including expository texts, novels, magazines and web-based articles.

#### 3.2 Procedure

This study was conducted about a period of four weeks, when an integrative project was undertaken for the final assignment. For the purposes of this study, Beane's integrative curriculum was implemented into the project planning and designing.

For the first week of the project, a concept web including the theme, concepts, questions and activities related to the project theme was developed in the process of negotiation and voting between the teacher and the students and students among their groups with three to four people. In the second week, the concept web was written down to submit to the teacher and reported to the whole class by each group. Meanwhile, following the strategies of alternative assessment (30) to guide their learning, learning targets, scoring criteria (see Appendix A) and procedures describing the project elements such as targeted content and skills, description of student activities and resources needed are explained. In addition, a field trip to the library and a computer lab was carried out to demonstrate how to search for information. Then in the third week, group discussion was undertaken to make progresses, questions and difficulties identified to their groups and to the teacher. Finally, in the last week an oral report and a written project by each group were carried out. Besides, a questionnaire was conducted to identify their difficulties and benefits in the process of integrative curriculum.

### **3.3 Data Sources and Analysis**

To answer the research questions, data were collected in several ways. First, a questionnaire (see Appendix B) consisted of both closed questions with a four-point Likert Scale and open-ended ones was conducted to elicit their responses about difficulties and benefits in terms of cognitive, affective and psychomotor skills they had in working on the integrative project. Next, a grading profile with scoring rubrics and classroom observations along with field notes were undertaken to record their learning outcomes in terms of classroom performance and the product, i.e., the project. They were told that the final project was allotted 30% and their classroom participation and the oral report were designated 10% of the grades in the semester. Last, the above sources and the field notes and/or logs were compiled in order to depict an accurate account of the challenges an EFL teacher encountered in negotiating curriculum with students.

The data were analyzed quantitatively and qualitatively. To present students' learning difficulties and benefits, means analyses was conducted along with their responses to the open-ended items in the questionnaire. Qualitatively data (e.g., classroom observations) analysis coincided with data collection and began on the first day of fieldwork.

### **3.4 Researcher Positionality**

Since the nature of this study involved a great deal of qualitative analyses, the job of the researcher became to interpret the results and place them in a broader context so that they had implication for readers to apply beyond this research context. Besides, gaining entry and data collection were facilitated by the fact that the researcher was the teacher in the class. The researcher had been teaching the class for almost a year; the rapport, therefore, had been established prior to the study.

## **4 RESULTS AND DISCUSSION**

To gain a comprehensive insight about the effectiveness of integrative curriculum for EFL students in Taiwan, learning difficulties, benefits and outcomes as well as challenges for the teacher were identified and discussed as follows:

### **4.1 The Difficulties EFL Students Encountered in Integrative Curriculum**

As Table 1 indicated, the project method in integrative curriculum was in general perceived somewhat tough. Difficulties in writing the project were the predominant factor, for example, grammar, content and organization except for personal responses. Problems in finding relevant information with appropriateness in length and difficulties for EFL students were the second challenge. On the contrary, team cooperation and the design of the concept web were not considered difficult for them.

**Table 1. Difficulty Ranking**

<b>Difficulties:</b>	<b>N</b>	<b>Min*</b>	<b>Max*</b>	<b>Means</b>
Usage, mechanics, grammar	35	1	4	3.09
Content	35	1	4	2.91
Organization	35	1	4	2.86
Relevancy & appropriateness	35	1	4	2.57
Reading comprehension	35	1	4	2.46
Quantity & variety	34	1	4	2.32
Personal responses	35	1	4	2.26
Questions & activities	35	1	4	2.26
Team cooperation	34	1	4	1.97
Concept web	35	1	3	1.49

\*1=easy, 2=somewhat difficult, 3=difficult, 4=very difficult

Further information from their responses to the open-ended questions suggested that due to their English proficiency and lack of training in writing, especially in organizing a project, it became hard for them to write correct sentences and select comprehensible reading texts despite abundant on-line information available. As to the least difficulties in designing the concept web and related questions and activities, team brainstorming and cooperation, and examples provided by the teacher were the causes to diminish their difficulties.

The findings indicated that cooperation learning was a crucial factor to ensure the integrative effectiveness in a project method. Besides, teacher preparation and guidance were considerably essential in project instruction. In addition to providing examples and benchmarks, supports like offering useful web sites and strategies in writing were also indicated in their questionnaire accounts. In fact, the importance of teachers' guidance and preparation was shown by the evidence of the distinction of difficulties in writing a project and personal responses given that the latter had been undertaken as a regular assignment to respond to reading texts since last semester. Writing skills related to grammar and organizations of a project, on the contrary, were not explicitly taught; therefore, they were perceived difficult for students.

#### **4.2 The Benefits EFL Students Acquired in the Process of Learning**

Findings in Table 2 suggested that the effects of integrative curriculum were positive in terms of facilitating cognitive, affective and psychomotor skills. Understanding more about the theme (content), improvement in information searching skills, reinforcement of team cooperation and overall learning were designated above three (3=some benefits). Parallel with writing skills perceived the most difficult area in the learning process, they



were considered to be the least improved skills. Motivation enhancement, despite the positive means of 2.62, was not indicated as much beneficial as it was in previous research.

**Table 2. Benefit Ranking**

<b>Benefits:</b>	<b>N</b>	<b>Min*</b>	<b>Max*</b>	<b>Means</b>
Content	35	2	4	3.11
Information searching skills	34	1	4	3.09
Team cooperation	35	2	4	3.09
Overall to myself and learning	34	1	4	3.03
Others & the world	35	1	4	2.91
Reading	35	1	4	2.86
Motivation	34	1	4	2.62
Writing	35	1	4	2.51

\*1=no benefit, 2=limited benefits, 3=some benefits, 4=a lot of benefits

Accounts in the open-ended items, furthermore, provided other benefits the students proposed. For instance, the project method gave them a chance to know the strategies and the values of application of knowledge as well as to enjoy the process and the significance of learning by doing, although time consuming was indicated, too.

The results showed the positive effects of integrative curriculum on EFL students' learning despite some challenges indicated here. The integrative project, in particular, promoted certain high-order learning skills such as problem-solving and application of knowledge, which cannot usually found in a traditional EFL classroom.

#### **4.3 The Outcomes EFL Students Performed in the Classroom and in the Project**

The student classroom performances in the integrative curriculum were surprisingly considerably active and engaged. The selection of the theme for the project, for instance, aroused enthusiastic discussions. The topics ranged from personal concerns such as fashion, sports, adolescent, food, beauty and health, transportation and love to controversial issues like homosexuality. Then the theme of "love" was selected by the means of voting, followed by the group discussion about related concepts, investigated questions and activities.

The oral report that could be spoken in Chinese or English about the project also demonstrated their efforts, comprehension and creativity. One group, for example, gave an account of the similarity and differences between the values held by Western and Eastern in marriage. Another group presented how their future wedding was planned, including details of the cost of a wedding banquet and the itinerary of a honeymoon. The other made a list of suggestions about reconciling a quarrel between friends.

Their written projects, on the contrary, did not show such strong, inspiring and impressive evidence of learning as they did in the classroom. Most of the writing was short descriptions or personal responses about the information they found in order to answer the questions related to the concepts or the theme. The information they elicited, moreover, was exclusively from the Internet or from interviewing accounts. Some of the charts or tables, however, showed a great deal of information and represented an alternative method in expressing students' concerns and learning styles.

The general outcomes both in the classroom and in the project indicated the value of integrative curriculum, including bringing the democracy into the classroom, engaging students' thinking and cooperation and inspiring their affection and imagination. Most of all, it was proven that student-centered approach and negotiation between the teacher students were workable. The above findings, moreover, corresponded to their perceived difficulties and benefits. The target content, for example, was studied to a certain extent and could be presented in charts, tables or oral reports. Due to students' limited writing proficiencies, however, it could not be expressed fully in sentence or paragraph levels. These all gave the teacher some insights about refining the implementation of integrative curriculum next time, for example, the grading criteria in writing.

#### **4.4 The Challenges the Teacher Confronted in Negotiating Curriculum with Students**

Challenges for the teacher in the student-centered approach called for the shift of the role and preparation. In the class, the teacher was a facilitator and negotiator. In the process of determining the selection of theme, for example, the teacher should give students some guidance or examples for them to brainstorm some significant concerns or themes but not their personal interests or trivial topics. Besides, when "love" was selected by voting and became the theme for the whole class, one group of students, however, insisted their theme "adolescent". The teacher became the negotiator in the class and respected their decision after considering the appropriateness of the theme and discussing with them.

Preparation was the primary factor in determining the applicability of integrative curriculum. First of all, all elements in an alternative assessment (30) should be taken into consideration and presented to the class. For example, learning targets, learning tasks, descriptions of student activities, resources needed, and grading rubrics should be explained clearly to guide their learning. Second, given the concept of integrative curriculum was a new idea for them, examples from prior studies (3, 5) as benchmarks should be provided in the class. Last, the teacher should act like an empirical researcher and regard any new teaching as a stance of experiment. Since this was the first time for the teacher, i.e., the researcher, to use this model, some strategies remained to be improved. For example, a number of students indicated that conducting a project was their first try

and took a great of time. The teacher might extend the length of having students carry it out next time.

The above findings in terms of difficulties, benefits, outcomes and instruction challenges suggested that it was worthwhile to try integrative curriculum for EFL students. Results such as students' difficulties in writing projects and finding comprehensible reading texts for EFL beginners, moreover, gave some helpful insights for the teacher to revise the approach when it is implemented next time.

## **5 CONCLUSION AND SUGGESTIONS**

The study on the integrative curriculum revealed some key features of the new curriculum vision (3). First, it gave the students a powerful voice in curriculum planning. Second, it proceeded from a constructivist view in which meanings are created by the students. Third, it was knowledge-rich and was suited for an era of knowledge explosion. Next, it presented an authentic integration of affection and cognition. Finally, it represented a whole curriculum, facilitating integration and being person-centered, constructivist and thematic.

The results of difficulties, project outcomes and challenges, nevertheless, indicated some pedagogical considerations in EFL learning contexts. Strategies for cooperation learning, the role of the teacher, corresponding teaching methods and accessibility to resources were critical elements in determining the effectiveness of the student-centered curriculum. Based on the findings, some suggestions were proposed as follows to facilitate its implementation.

### **5.1 Cooperation Learning**

Numerous studies conducted in the past two decades about cooperative learning have shown strong evidence that it can not only improve students' academic performance but also promote their learning attitude and social and personal development (11, 20, 24, 28, 32, 37, 39). Some negative learning experiences under cooperative learning, however, were reported by students, too, for example, disagreement and miscommunication in the group, difficulties in time arrangement for group discussion, disproportion of job allocation and the objectivity of group assessment (28).

The above problems, no doubt, magnify a major dilemma and consideration that a teacher should ponder when cooperative learning is operated in class, that is, how to form the small groups. Strictly speaking, there is no fix rule to form the groups, but there are three essential factors in grouping which ultimately determines the effectiveness of cooperative learning: students' individual characteristics, the nature of learning tasks, and the duration of the cooperative group (33). Fortunately, most of the students in this study indicated positive experiences in cooperation given that their cooperation had begun prior

to the research. Therefore, in the long run of learning, students' friendship instead of learning ability and styles should be the predominant factor in grouping.

## **5.2 Teacher as a Facilitator, Guider and Negotiator**

In integrative curriculum, believing students' potentials is a very critical presupposition. Their learning, however, still needs the teacher's guidance, for instance, the selection of the theme and the scoring rubrics for the project. As their suggestions indicated in the questionnaire, they especially asked for the teacher's instruction in writing and organizing a project as well as in searching for comprehensible reading texts which depicts a dilemma in EFL learning contexts. EFL students, particularly in Asia, rarely receive instruction pertaining to project method. Accordingly, they have few experiences in writing a project and finding information.

To date, the information for conducting a project usually comes from the Internet as the study indicated. Research on EFL students' perception of web-based texts, however, showed that lack of guidance and time consuming were the major difficulties for them (27). As Warschauer (38) claimed that four principles should be taken into consideration for language teachers to successfully implement web-based learning projects: 1) Consider carefully your goals, 2) Think integration, 3) Don't underestimate the complexity and 4) Provide necessary support and involve students in decisions. The above suggestions along with the findings in the study illustrate the significance of the teacher being a guider. The teacher should be well prepared in providing learning targets, task descriptions, grading rubrics, example work, a field trip to the library and if possible, a list of useful websites.

## **5.3 A Variety of Teaching Methods**

In Beane's integrative curriculum, one theme is undertaken after another until the course ends. The students in this study, however, stated that conducting a project was very time consuming due to their few experiences and limited language proficiencies. One project for a semester in an EFL class, therefore, is recommended, especially for novices. Don't rush!

A variety of teaching methods, accordingly, should be complementarily used. The ideas of "learning by doing" and "student-centeredness" proven effective in this study, nevertheless, should be kept in mind. A short written response or other forms of alternative assessment to reading texts may be helpful orientation for students to begin a project. For EFL beginning writers, grading should not put too much emphasis on grammar or usage, which could discourage them to think and write. Instead, an oral report, personal responses or tables and charts without the threat of complex writing also can facilitate their project learning. In sum, the teacher should design proper learning tasks and rubrics according to students' abilities and learning styles in an integrative curriculum. Be flexible!

#### 5.4 Accessibility to Resources

Last, accessibility to information is desirable in integrative curriculum. The students expressed their need for a supportive school library. If it is not possible, a field trip to a nearby bookstore with sufficient English materials can be helpful.

Riding with the current trend in education contexts, integrative curriculum has been undertaken at a large scale for the past decade in the States. Beane's integrative curriculum particularly has drawn a lot of attentions and was proven effective in several studies. Its implementation in this study, however, was probably the first attempt in an EFL learning context. The findings here confirmed its values but also shed light on its challenges for Taiwanese EFL students. Only under the process of action research can its applicability and transferability be identified. Its infusion into EFL contexts continues to be a worthwhile investigation.

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## Appendix A

### Criteria Used to Evaluate the Project

Standards					
I. Reading: (50%)	Scores				
1. Quantity and Variety: using a variety of information-gathering techniques and information sources	2	4	6	8	10

<b>2. Relevancy and Appropriateness:</b> using relevant reading materials with appropriateness in length and difficulty	2	4	6	8	10
<b>3. Comprehension:</b> accurately understanding main ideas and drawing inferences from context	5	10	15	20	
<b>4. Personal Responses:</b> fully expressing personal investment and expression	2	4	6	8	10
<b>II. Writing: (50%)</b>	<b>Scores</b>				
<b>1. Concept web:</b> a clear concept web including appropriate questions and meaningful activities	2	4	6	8	10
<b>2. Organization:</b> unity and coherence	2	4	6	8	10
<b>3. Content:</b> thorough information and details to support main points and each questions investigated	5	10	15	20	
<b>4. Usage, Mechanics, and Grammar:</b> correct usage (tense formation, agreement, word choice), mechanics (spelling, capitalization, punctuation), grammar, and sentence construction	2	4	6	8	10

## Appendix B: Questionnaire

**I. Difficulties:** Please indicate how difficult the following problems/criteria are for you to conduct this project.

1=easy, 2=somewhat difficult, 3=difficult, 4=very difficult

<b>1. Quantity and variety</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				
<b>2. Relevancy and appropriateness</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				
<b>3. Comprehension</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				
<b>4. Personal responses</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				
<b>5. Concept web design</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				
<b>6. Questions and activities design</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				
<b>7. Organization</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				
<b>8. Content</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				
<b>9. Usage, mechanics, and grammar</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Why: _____				



**10. Team cooperation** 1      2      3      4

Why: \_\_\_\_\_

**11. Other difficulties:** \_\_\_\_\_

**12. How did you solve the problems or difficulties:** \_\_\_\_\_

**13. What supports would you need to complete this project:**

From peers: \_\_\_\_\_

From the teacher: \_\_\_\_\_

From others: \_\_\_\_\_

**II. Benefits:** Please indicate how beneficial from conducting this project to the following learning targets.

1=no benefits, 2=limited benefits, 3=some benefits, 4=a lot of benefits

**14. About the content** 1      2      3      4

Why/how: \_\_\_\_\_

**15. About others and the world** 1      2      3      4

Why/how: \_\_\_\_\_

**16. Team cooperation** 1      2      3      4

Why/how: \_\_\_\_\_

**17. Motivation and interests** 1      2      3      4

Why/how: \_\_\_\_\_

**18. Information searching skills** 1      2      3      4

Why/how: \_\_\_\_\_

**19. Reading** 1      2      3      4

Why/how: \_\_\_\_\_

**20. Writing** 1      2      3      4

Why/how: \_\_\_\_\_

**21. Others:** \_\_\_\_\_

**22. Overall to you and learning** 1      2      3      4

Why/how: \_\_\_\_\_

**III. Suggestions:** Please write suggestions for doing this project in this class.

\_\_\_\_\_