The Academic Achievement of Writing via Project-Based Learning

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Abstract—This paper focuses on the use of project work as a pretext for applying the conventions of writing, or the correctness of mechanics, usage, and sentence formation, in a content-based class in a Rajabhat University. Its aim was to explore to what extent the student teachers' academic achievement of the basic writing features against the 70% attainment target after the use of project is. The organization of work around an agreed theme in which the students reproduce language provided by texts and instructors is expected to enhance students' correct writing conventions. The sample of the study comprised of 38 fourth-year English major students. The data was collected by means of achievement test and student writing works. The scores in the summative achievement test were analyzed by mean score, standard deviation, and percentage. It was found that the student teachers do more achieve of practicing mechanics and usage, and less in sentence formation. The students benefited from the exposure to texts during conducting the project; however, their automaticity of how and when to form phrases and clauses into simple/complex sentences had room for improvement.

Keywords—Project-Based Learning, Project Work, Writing Conventions.

I. INTRODUCTION

ENGLISH is not only a prime language in a variety of fields – science, technology, commerce – but also an international language which plays an important role in education [1], [2]. It is a subject of learning for countless schoolchildren and has earned an interest from language teachers and educators at all educational levels. English including arts, mathematics, economics, science, geography, history, and government and civics, is considered one of the core subjects essential for students to succeed in work and life in 21st century [3]. College students whose English falls short of the required standard do not receive their diploma, and white-collar workers expend energy on English learning as it is pre-requisite for promotion. English becomes a gatekeeper to education, employment, business opportunities and economic prosperity [4].

These themes brought Thailand the need for change through re-examination of the country's educational system and set the stage for alternations in teaching and learning at the classroom level [5]. The demand raises concerns among language teachers to restore the aim of language education – to communicate in the language. According to Woods, when ones say someone communicate in a language, it means the person is able to produce the language acceptable in its

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grammar [6]. He/she does not only know grammar, vocabulary, and rules of use --of what and how to say to whom-- but also is able to compose sentences to make statements of different kinds for different purposes [7].

II. PROJECT-BASED LEARNING

Project-Based Learning (PBL) is described as an instructional approach that lends itself to the integration of language- and content-learning objectives. The approach contextualizes learning by presenting students with products to develop, or problems to solve [8]. Complex tasks involving students in design, problem-solving, investigative activities, or decision-making tasks are sequenced in multiple states of development for the success of project. These tasks (i.e., reading, ordering and sorting information, comparing and problem solving) are combined in working towards an agreed goal and centered on a theme, or topics, relevant to the specific content being studied [9]. The combination of complex communication skills ranging from receptive skills (listening and reading) and productive skills (peaking and writing) are embedded, usually in authentic or simulated situations. Language is used as a tool for communication and functions as a vehicle for acquiring knowledge. Students have opportunities to recycle known language while focusing on topics or themes, rather than on specific language features. Linguistic features found in texts students read are likely to appear at some point in their written project report.

Various studies document that project-based learning has the potential of serving as a significantly beneficial approach to language instruction. It promotes communication in various forms. Mikulec and Miller [10] used projects with eight-graders during a nine-week exploratory French class. Students were engaged in conversation and exchange information and opinions. They then interviewed parents, friends, and teachers about their knowledge of French words and phrases used in English. Also, the approach was seen as a way to develop students' cognition of pertaining perception, memory, judgment, and reasoning on language use. Exploring student writing opportunities in technology-assisted classrooms, Foulger and Jimenez-Silva [11] reported that via project-based learning, writing embedded in natural settings that helped create increased levels of language cognition – attention to topic organization, awareness raising on linguistic features, vocabulary and word choice, genre principles, and sentence formation for a variety of purposes are processed all at the same time. The variety of coordinated effort employed during writing process allows language learners to develop their abilities in target language by interacting and communicating

in authentic or simulated situations [11], [12]. The ideas support notions of communicative language learning that one uses language to learn a language. Language learning is best achieved through meaningful instruction where one uses language for real purposes.

III. PARTICIPANTS

The classroom experiences under investigation were a 14-week content-based undergrad course called Evaluating and Developing Teaching Innovation. The class equipped students with the foundational knowledge of language teaching approaches and methods, English in particular. It was designed to expose students to literary and informational/functional texts of English teaching principles and methods from authentic print and non-print sources. The use of a variety of resources promotes students idea generation and selection of language teaching methods as a guide for pre-service teachers. To meet the course requirement the students need to be knowledgeable in effective methods and techniques that maximize language learning as well as profound in linguistic features of the language (namely English), theories of language learning, and how they are utilized in the classroom. There were 38 fourth-year English major students as participants whose English proficiency was lower intermediate. As the researcher were their English instructors in previous semesters, it was possible to observe and closely monitor student teachers' progress. The students are equivalent in nature both in socio-economic and academic achievement. Their ability to use appropriate conventions (i.e., sentence formation, usage, and mechanics) for effective writing has some room for improvement. The purpose of projects utilized in the study was twofold. First of all, given that Thai was only a medium of instruction; students earn opportunities to apply knowledge of conventions to their writing. The second goal was to encourage a continue interest in search for language teaching principles and methods that would hopefully be useful for their teaching performance when employed in future workplaces.

IV. METHOD

This paper sought to report the use of project work as a pretext for applying writing conventions, or correctness in mechanics, usage, and sentence formation, in a content-based class in a Rajabhat University. It aimed to explore to what extent the student teachers' academic achievement of the basic writing features against the 70% attainment target after the use of project. The three features interwoven in writing conventions are described as follows:

a) Mechanics are the conventions of print, including spelling, punctuation, capitalization, and paragraphs.
b) Usage refers to conventions of written language that includes word order, verb tense, and subject-verb agreement. The use of these in a language could be different from the other, for instance English and Thai.
c) Sentence formation refers to the structure of sentences – the way that phrases and clauses are used to form simple and complex sentences. Ideas could be expressed, combined and rearranged into a single, more compact sentence. Sentences thus possibly become varied in length.

The project work in this study is characterized by the primary features of the project development structures commonly found in other projects [13]-[16]: agreeing on a theme for the project, determining the final outcome, planning the contents and the way of carrying out the tasks, preparing for the demands of tasks, gathering needed information, analyzing/organizing collected information, presenting the final outcome, and reflecting on the work done. In addition, this model integrates the stage of attention arousal to strengthen students' interest in the project via the use of perceptual arousal (e.g., opposite point of view, use of humor to lighten up the topic) and inquiry arousal (e.g., role-play, questions that challenges critical thinking) [17]. The project was a two-month long semi-structured project, designed and organized by both teachers and the students. A detailed description of how the project was implemented in this study was as follows:

Step 1 includes choosing a suitable topic for the project, generating interest and a sense of commitment via the use of perceptual arousal and inquiry arousal. To facilitate topic initiation, an umbrella topic, connected to studied content, was given. A list of related topics was not only provided but also served as guiding examples for ideas. The list was optional.

Step 2 requires negotiation between class and the teacher for the choices of the final outcome of the project, namely article review, as well as the audience for the project work. Choice reasons were shared among the class.

Step 3 asks for determining the content and structuring the project. Students and the teacher agree on the scope of information needed to gather, sources of data collection, tentative timeframe, and roles of each group member.

Step 4 prepares students for the demands required by project work in both content and language via a variety of teaching activity (e.g., lectures on relevant approaches and methods, workshop for summary writing, reflection writing and lesson plan design).

Step 5 lets students leave the classroom for gathering information from sources agreed on Step 3. They are instructed to share information among the others and discuss in teams for a consensus as to which information should be used/discarded. The sources are saved for a reference list.

Step 6 brings the students back into the classroom and let them sort out the gathered information – analyzing, and organizing for writing up a review article.

Step 7 lets students submit to the teacher the final outcome based on the agreement in Step 2. Students were allowed to rework their writing until their intended message was clearly communicated. Teacher gives feedback on content (teaching approaches and methods), and language (structures and vocabulary). The feedback serves as guidance for correction.

Common grammatical errors are listed and correct use of the structures is provided.

Step 8 gathers students' reflections on the group processing whether or not groups function well in regards of effectiveness in contributing to collaborative efforts to complete the project work [18]. Also, students reflect on the language they acquired during the process of article review writing.

V. DATA ANALYSIS

The data source for this study included the course syllabus, lesson plans, and students' writing work. The researcher analyzed the course syllabus for content and lesson plan design. Students' written works were collected two times in Step 4 (see Section IV. Method). The researcher identified the features of writing she wanted the students to correct during revision. When graded work is returned with error labels, students then revised their work. Printouts were collected for progression of revision, instead of only the latest draft or the final product. The summative achievement test measured correctness of the conventions at sentence level in writing work collected in Step 7. The scores in the achievement test given were then analyzed by mean score, standard deviation and percentage.

VI. FINDINGS

In this section the descriptive statistic will be handled through measuring the means, standard deviation (SD) and percentage.

TABLE I
MEANS STANDARD DEVIATION AND PERCENTAGE OF THE CONVENTIONS IN THE STUDENT TEACHERS' WRITING WORKS

Conventions	Means	S.D.	No. of student teachers' whose scores meet the 70% target attainment		No. of student teachers' whose scores failed to meet the 70% target attainment	
			No.	%	No.	%
Mechanics	15.9	1.250	37	97.3	1	2.7
Usage	14.8	1.449	30	78.9	8	21.1
Sentence Formation	14.2	1.211	28	73.6	10	26.4

Table I shows means, standard deviations and percentage of the student teachers' conventions, or correctness in mechanics, usage, and sentence formation, in their writing works. The number of the students who took the exam was 38. The total scores were 60 points, 20 of each were for mechanics, usage, and sentence formation. Looking at the individual features of writing, the resulting means scores of mechanics (15.9) and usage (14.8) were higher than the sentence formation (14.2). The results revealed a low diversity of test scores on sentence formation (1.211), and two higher ones on mechanics (1.250) and usage (1.449). In lay words, the number of the student teachers more achieve in practicing mechanics and usage, and less in sentence formation.

The higher achievement of mechanics and usage could possibly be because the two concern spelling, punctuation, capitalization, and paragraphs (meaning); and word order, verb tense, and subject-verb agreement (usage). Both mechanics and usage have a clear rule for use to decide where to place a period instead of a comma, for instance. The students in addition benefited from the exposure to diverse texts during the project (i.e., reading, ordering and sorting information, comparing and problem solving). These serve as model examples of correct use of the two features. The lesser achievement of sentence formation may be because expressing ideas in written language requires the interconnected skills of attention to topic organization, linguistic features, vocabulary and word choice, and finally genre principles for a variety of purposes, for instance. They are processed all at the same time, requiring ability to automatically juggle the many physical and cognitive aspects – forming phrases/clauses into simple/complex sentences, spelling, word order, grammar, vocabulary, and ideas – without consciously thinking about them. The students' automaticity of how and when to apply the aspects is limited and needs to be improved.

VII. CONCLUSION

On the basis of data presented and the discussion above, the researcher concludes that project work could be viewed as the natural language learning context, in which language learning, writing in particular, is contextualized and presented in the way that learning becomes integrated with the task of communication about some theme. Placing an emphasis on communication, students focus their attention on conveying their message and, at the same time, apply knowledge of conventions to their writing. The conventions are used at various points in the project and practiced in authentic context.

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