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Designing Task Based Lessons Using Bloom's Taxonomy of Objectives

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Abstract

This study describes the merging of a task-based activity with Bloom's Taxonomy of Educational Objectives (Bloom's Taxonomy) in a tertiary EFL setting in Japan. Task based learning is known to increase student motivation, induce more critical thinking and trigger deeper levels of learning. Simple tasks can be made more academically rigorous by adding structure and tangible learning outcomes to maximize learner benefit. Educational taxonomies can assist in this regard. They define and distinguish the cognitive skills required to complete a given learning activity based on the complexity of the learning activity. Taxonomies can be applied to tasks and curriculums across disciplines to give them structure and clear learning objectives. As such, the merging of task based learning and educational taxonomies can improve the cognitive rigor of classroom activities and lead to deeper levels of learning and more language gains for students.

The purpose of this study is to model how Bloom's Taxonomy was used to add structure and pedagogical rigor to an English language task. Students completed a series of learning activities that spanned the six cognitive levels of Bloom's Taxonomy while actively engaging in the four key language skills through individual, group and pair work. These activities equipped students with the pedagogical skills and content knowledge necessary to create a poster that explored different facets of an unfamiliar country. Students were required to present their poster to their classmates and respond to questions and comments. Following their presentations, students reflected on the project and assessed the quality of each group member's participation.

1. Introduction

Language educators and stakeholders have an increasing responsibility to deliver more targeted curricular instruction that equip students to use their target language for real life tasks or to better understand the world around them. In the language classroom, complex tasks broken down into activities of incrementally increasing cognitive demand and learner autonomy can assist in achieving this goal. Educational taxonomies offer a medium through which complex tasks and their activities can be designed to challenge learners cognitively and facilitate the acquisition of language skills and an improvement in cognitive abilities. Task-

based curriculums or learning activities designed in this way, will converge language intake and language production, and in effect, answer the often-asked learner question, 'How can I use what I have learned?'

This report describes the integration of Bloom's Taxonomy of Educational Objectives (Bloom's Taxonomy) into the design of a task-based activity for first year students at a Japanese university. Students were required to create a poster about a country, relatively unknown to them, and present the poster to their classmates. Bloom's Taxonomy was used as a framework to add structure to the overall task and guide the definition of the learning objectives for a series of higher order thinking activities that prepared students to complete their final task. The paper also discusses student outcomes, and teacher observations and provides suggestions for instructors seeking to incorporate similar task based lessons in their curriculum. The main areas of focus for this report are:

- The types of learning activities that can be designed to meet the criteria of the cognitive stages defined in Bloom's Taxonomy
- How to incorporate a range of participatory structures in different stages of the task
- Ways to seamlessly integrate the essential language skills (speaking, listening, reading and writing) into the learning activities

2. Theoretical Frameworks

This study is a combination of two primary approaches: task based learning and Bloom's Taxonomy. The task-based approach determined how the learners demonstrated their knowledge (the final product), while Bloom's Taxonomy created the roadmap of tasks that led students to their final outcome.

2.1 Learning Taxonomies and their Aims

Learning taxonomies are classification systems that distinguish and describe the different stages of learner development. The concept of learning taxonomies was first introduced in 1956 by the primary advocate, educational psychologist Dr. Benjamin Bloom (Bloom, 1956) (Anderson & Krathwohl, 2001).

Educational taxonomies have broad applications in designing and implementing curriculums (Marzano 2001) across diverse disciplines and can support educators in the following ways:

- Serve as a framework for creating new courses materials, and assessments or redesigning existing ones
- Function as a tool to analyze existing learning and assessment materials to identify the level of cognitive skill they demand of their target users
- Perform as assessment tools on their own with the right implementation
- Provide curriculum support in a wide spectrum of educational contexts when adapted for specific topics and pedagogical styles

Since the publication of Bloom's ground-breaking work, a plethora of taxonomies, most notably, Six Facets of Understanding proposed by Wiggins & McTighe, Taxonomy of

Significant Learning by Fink and The SOLO Taxonomy by Biggs & Collis, have been designed to improve learner achievement and learning outcomes.

2.2 Bloom's Taxonomy

Benjamin Bloom asserts that logical thinking can be classified into six levels of cognition, each situated in a hierarchy starting from simple and abstract, to increasingly complex and concrete. His central idea is that cognitive skills are accumulative and learners should master lower levels of cognitive ability (knowledge, comprehension and application) before proceeding up the hierarchy to challenge higher skills such as analysis, synthesis and evaluation (Bloom, 1956). At each level of thinking, action verbs are used to describe the cognitive tasks that learners should be able to perform; these verbs when combined with the knowledge or content areas being studied, form learning outcomes appropriate for the given set of skills students are required to master (Table 1). Once students have progressed from mere recalling facts in level one they are continuously challenged to demonstrate deeper learning by using the knowledge they have acquired to complete more complex activities.

Table 1: Bloom's Taxonomy (Original)

| Skill	Definition	Key verbs
Knowledge (level 1)	Learn new information, recall facts	Describe, follow, list, name, tell, write
Comprehension (level 2)	Understanding meaning and concepts	Compare, explain, discuss, outline, predict, translate
Application (level 3)	Use information or concepts in a new way or apply to a different situation	Classify, examine, illustrate, show, solve, use
Analysis (level 4)	Identify separate qualities of a topic, break information down into parts to understand it more fully	Categorize, compare, contrast, examine, identify, investigate
Synthesis (level 5)	Combine ideas to produce something new	Construct, create, compose, design, invent, plan
Evaluation (level 6)	Forming opinions and defending them, making judgements about information	Assess, choose, decide, justify, prioritize, rate, recommend

Bloom's vision was that his taxonomy would improve teacher efficiency and effectiveness by assisting instructors with these key tasks (Krathwohl, 2002):
- Articulate learning objectives across various disciplines
- Identify areas where the breadth and depth of a curriculum can be expanded for greater learning
- Reveal the deeper meaning of broader goals embedded in a curriculum
- Create consistency among learning activities, learning goals and student assessment for a given course or curriculum

Since its inception, Bloom's Taxonomy has been a mainstay in education and has been applied across disciplines such as biology (Crowe, Dirks, & Wenderoth, 2008), engineering

(Felder & Brent, 2004), and nursing (Mcdonald, 2007), as a framework for defining learning objectives that elicit increasingly higher levels of critical thinking. The success of Bloom's, or any other taxonomy, is largely dependent on how it is implemented. Essentially, taxonomies tend to work best when they are referenced first to decide learning objectives for a lesson or course and then classroom activities are created to fulfill these objectives. This means, that in applying Bloom's Taxonomy, verbs should not be simply matched or assigned to existing lessons, instead, the taxonomy should be applied ahead of lesson design and should drive the creation of the learning activities within the lesson.

A criticism levied against Bloom's approach is that several verbs are repeated at multiple levels, and as such, there seem to be no clear demarcation in the cognitive complexity articulated by each stage. This limitation poses a problem for instructors who are using the taxonomy to create congruence between curricular learning activities and student assessment. In a bid to correct this issue the original taxonomy was revised by a team of researchers most notably Andersen and Krathwohl (2001) (Fig. 1).

Source: https://www.cambridge.org/jp/cambridgeenglish/catalog/skills/unlock
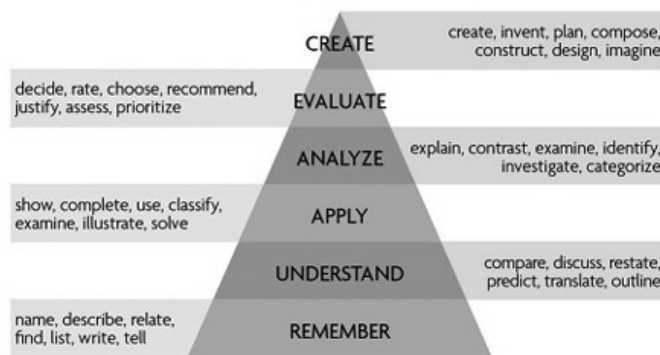
Fig.1　Bloom's Taxonomy Revised

In the revised taxonomy, the intent of the original taxonomy still remains: that is, to categorize classroom activities and questions for assessments according to their levels of cognitive demand. As such, the six cognitive levels remain in the revised version, however the levels are no longer a cumulative hierarchy, and the placement of each level within the taxonomy has shifted. The revised framework now encompasses two dimensions: the original cognitive processes as well as new knowledge categories. With this change, both the processes (the verbs) and the knowledge area (the nouns) can be used to more accurately articulate educational objectives and create congruent assessments.

2.3 Tasked Based Learning (TBL)

TBL develops learner capabilities by organizing inquiry processes around tasks. Meaning, students find answers and create solutions by actively engaging with a given content to produce a tangible outcome with as much autonomy as their skillset allows. In TBL, focus is

placed on performing the task and using language as a tool to successfully complete a task. The language is naturally produced by doing the task without the student having to master particular grammar or lexical forms.

In existing literature, there is little consensus as to what constitutes a task in terms of how the target language is used by learners and taught by instructors. One of the major supporters of TBL, Nunan (1989) offers this description of a task, "A piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than on form" (p. 10). Another proponent, Freedman (1996), proposes that "Tasks are always activities where the target language is taught for a communicative purpose in order to achieve an outcome" (p. 23).

Jane Willis (1996), one of the first proponents of adopting task based learning into foreign language study, believes that tasks should be at the centre of language learning. She defines tasks as, 'Activities where target language is used by the learner for a communicative purpose in order to achieve an outcome' (p. 23). Willis argues that the interpretation of what a 'task' is varies widely in academia; for some, tasks are considered to be meaning-focused, while for others, tasks are objectives, goals, or outcomes. No matter the perception and definition, Willis believes that tasks function to encourage learners to develop cognitive language skills in real-life situations. Although task should ideally have real life application, this not a given since the nature of tasks and their application varies considerably across learning contexts. In certain settings, learners engage in purposeful information exchange in the target language to accomplish real-life outcomes. In other educational settings however, language tasks are not explicitly connected to authentic use beyond the classroom; instead, tasks are devised as pedagogical activities that require students to simply perform or practice grammatical structures in the target language.

Among these varied approaches used, there is congruence in the idea that tasks provide a definite purpose for using and learning language rather than simply learning language for its own sake. As well, TBL is a clear departure from traditional learning where teachers are at the centre of classroom activities and decision-making. This kind of teacher centred teaching can interfere with students' academic development (Duckworth, 2009). Constructivism in contrast, places students at the centre of classroom activities and involves them in making decisions about what content should be taught and how it should be learned. TBL is constructivism in action, it entails hands-on learning in which students are reconstructing information through their individual lens of perception.

One of the most solid findings of the benefit of TBL is that it affords the opportunity to integrate multiple language skills, which leads to higher language competency in learners. This integration of skills in any given lesson improves productivity in the classroom and is said to promote language learning to occur more naturally (Baturay & Akar, 2007). TBL is a multifaceted approach, which can be creatively applied to a range of syllabuses designed for different purposes (Willis, 1996). Specifically, in a language learning setting, the teacher designs the tasks and takes on the role of facilitator as students work as autonomously as

possible to engage in the language. Learning takes place during this period of autonomy when students are using the target language to produce a tangible outcome. Once achieved, this tangible outcome signals the completion of the task, after which, assessments can be made of how well the task outcome matched the original learning goals.

3. The Study

3.1 The Background

This action research resulted from the need to improve the quality of poster tasks in the author's classroom. Poster activities can easily become 'art-for-fun' if they are not designed and implemented with clear learning outcomes for students. With this in mind, the researcher sought to add structure to the overall design of task, improve pedagogical rigor to individual activities and create more tangible learning outcomes. This led to the idea of applying an educational framework that could be easily applied to this specific type of language task and that would appropriately challenge students.

Two somewhat similar taxonomies were considered for this study. Bloom's Taxonomy was chosen over Webb's Depth of Knowledge, as there is an abundance of literature that supports the use of Bloom's in different learning environments to promote critical thinking (Leaver & Willis, 2004) (Thomas, 2015), and the author has previous experience using Bloom's in other learning environments.

3.2 The Setting

The study was conducted in a population of 60 freshmen at a Japanese tertiary institution in the 2017 academic year. The author's goal is to review and refine the overall task with new sets of freshmen in future academic years. Students have one 90-minute session of English oral communication (the setting for this study) and one 90-minute session of English reading/writing each week. Generally, the reading/writing class follows a more traditional teaching method therefore communication practice, complex tasks, and co-operative learning are generally not integrated in the students' learning repertoire.

3.3 The Project Goals and Data

The first goal for implementing a taxonomy-backed poster task was to motivate students to use the language acquired in class, in a way that had meaning and relevance for them in real life. The focus was on getting students to communicate meaning, and in terms of content, to gain knowledge of diverse people, cultures, and customs to broaden students' awareness of the world around them.

Similar to many Japanese tertiary institutions, at the university where this study took place, the four language skills are taught separately in the oral communication and reading/writing classes. This created the second goal for having a structured task – to integrate the four key language skills under the umbrella of one task, so as to add cohesion to students' learning. In addition to incorporating listening, reading and writing into this communicative task, the

researcher's aim was to use as many participatory structures as the taxonomy and activities within the task would permit. This translated into activities in which students worked individually, and then engaged in information sharing and peer learning in pairs and groups.

Data for this study was collected from a pre questionnaire, students' post-task assessment, teacher observation and an unstructured feedback session with students.

3.4 Task Development

The study was structured to follow the stages presented in Bloom's Taxonomy and was an extension of a unit from the course textbook. Briefly, after completing a pre-task questionnaire, students were led through a series of increasingly challenging activities that were either created by the instructor or assigned from the course textbook. Activities were selected or developed to equip students with the language skills and content schema necessary for them to succeed in moving up Bloom's Taxonomy and to work autonomously on their posters. The learning objectives for each activity was geared at helping students to learn, practice and produce the pedagogical forms required to create and present a poster, ask and answer follow-up questions, and to assess the task itself and their peers' participation during the task. Finally, activities within the task were executed to involve a range of participatory structures (individual, pair work, and group work) (summarized in Tables 3 – 6). Students could develop and demonstrate their skills individually and then contribute and benefit from peer interaction at various stages of the taxonomy.

4. Integrating Bloom's Taxonomy into the Task

Activities were assigned that matched the objectives of each cognitive level in Bloom's Taxonomy (Supp. Table 1). As an extension of a textbook unit, the poster task and sought to offer students a real life application of the content that was learned. The task was designed to fit within the class period allotted for unit and two cognitive levels of Bloom's Taxonomy were distilled in one 90-minute lesson.

Pre-Task: Questionnaire

In a preliminary questionnaire, students were asked which countries they have travelled to and which two countries they want to visit the most (Table 2). On average, 45% or more of the students have travelled abroad predominantly to destinations in Asia and to U.S. territories. Roughly all students plan on travelling overseas at least once during their four years at university.

Lesson 1: Remember and Understand

This first lesson led students through the two lowest levels of the taxonomy. These cognitive stages focus heavily on input, memorization, information recall and comprehension and are more suited for individual work. At these levels, students completed a series of exercises mostly from the textbook to practice reading large numbers, applying units of

Table 2: Students' travel patterns（# of students）

Countries students have visited	Countries students wish to visit
United States: New York（1）, Hawaii（5）, Guam（5）	United States: New York（3）, Hawaii（6）, Guam（5）, undefined state（2） California（2）
Canada（2）	Australia（4）
Korea（8）, Vietnam（3）	Korea（7）, Bali（4）, Thailand（3）
Australia（3）	France（10）, Italy（8）, Spain（5）

Table 3: Characteristics and implementation of levels 1 and 2 of Bloom's Taxonomy

Taxonomy level （Objective）	Task Description	Pedagogical task/ Skills/ Participation Structure
1. Remember （Recall information） List, define, name, write, tell **2. Understand** （Demonstrate understanding of terms and concepts） paraphrase, translate, summarize, match like ideas, explain, give examples	–**List** Japan's top 3 … E.g. gardens, festivals, views, temples, universities, etc. –**Tell** 2 classmates the places on your list and **write** any new places discovered –Grammar practice from the textbook – Listen and answer questions about different cities/landmarks around the world –Summarize the characteristics of one city/landmark in pairs	**Pedagogical task** –Using superlatives and comparative adjectives –Reading and writing numbers **Skills** Writing Speaking Listening **Participation Structure** Individual Pair work

measurements correctly, and recounting simple geographical facts（Table 3）.

Lesson 2: Apply and Analyze

Students interviewed their classmates about past overseas travels, the countries they would like to visit and the reasons for their choice. Destinations were ranked from most to least popular; motivations for past visits/wanting to visit were sorted into three types: gourmet, experience, and landmarks. Students were asked to think of recommendations they could give to tourists who were coming to Japan motivated by these three reasons. The language focus was on using modals to ask for and give recommendations（Table 4）.

Lesson 3: Evaluate and Create

First, students read one of five different articles on a different country/territory they are familiar with or may have even visited: Australia, Indonesia（Bali）, France, Hawaii, Korea, and Guam. Students then worked in groups of three to give a summary of their article, while mentioning any notable differences or similarities between their destination and Japan, and adding their impressions from visiting the destination or information from other sources. Then, each student chose one of three destinations from their group as the most appealing to visit, stating the reasons for their choice and reported this to classmates in a new group of three. This scaffolding activity prepared students for the paraphrasing, summarizing and reporting written information, skills they need to activate when conducting research, writing

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Table 4: Characteristics and Implementation of levels 3 and 4 of Bloom's Taxonomy

Taxonomy level (Objective)	Task Description	Pedagogical task/ Skills/ Participation structure
3. Apply (Use the information in a concrete way, apply information to a familiar or unfamiliar task) Construct an interview, compare **4. Analysis** (Reorganize information into new patterns), synthesize, survey, compare and contrast, find connections, classify	-**Interview** 3 classmates to find out which countries they have visited and two they would like to visit most and why -**Practice** the comparison and superlative forms by asking 3 follow-up question and recording your classmates answers -Form groups of four and **compare** data from above to identify most popular destinations in Asia, outside Asia -**Classify** the above reasons for travel into: gourmet, experience, and landmarks -**Select** some suitable activities and destinations in Japan for each of the three main reasons for travel. Exchange information with other groups	**Pedagogical task** -Using the past tense -Forming basic Wh- questions in the present and past -Forming follow-up questions -Using superlative and comparative adjectives **Skills** Reading & Writing Speaking Listening **Participation Structure** Pair work Group work

and presenting their project.

In the final stage, students assimilated all they had learned to plan and create an original poster about a country. There were six pairs of countries from six general world regions. There were no particular inclusion/exclusion criteria for the countries selected except that students knew very little about them, or had never heard of these countries prior to the task.

Students formed groups of four on their own and first decided the region they would like to study. The researcher then ensured that every region was chosen at least once. Each group then chose one of the two countries from their region (Supp. Table 2) and created a poster following the guidelines in Supp. Table 3. Groups were afforded one hour of class time to plan their poster and the rest of the work was done out of class.

Lesson 4: Perform

The poster for each group was displayed around the classroom. Each group was divided into two teams A and B, of two students each. The A team went around to see the posters of other groups, while the B team presented their poster to their classmates and responded to questions (Table 6). Visiting students were expected to give their classmates feedback on their poster, ask relevant questions to get clarity or further information. Presenters were expected to demonstrate knowledge of their content by explaining without directly reading and responding to incoming questions and feedback appropriately. A and B teams then switched roles. In this way, each student presented, as well as viewed and asked questions about their classmates' posters.

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Table 5: Characteristics and Implementation of levels 5 and 6 of Bloom's Taxonomy

Taxonomy level（Objective）	Task Description	Pedagogical task/Skills/ Participation structure
5. Evaluate（Make judgements based on criteria）defend opinions, judge, critique **6. Create**（producing new work）Generate, plan, design	–**Read** a short article about a country –**Summarize** the article and add new information, **compare** and **contrast** the country with Japan（groups of three）–**Recommend** your country to two different classmates giving clear reasons and record the details of their country（pairs）–**Judge** which of the three countries discussed is the best travel destination –Form groups of four, choose a country –**Plan**, **research**, and **design** a marketing poster describing different aspects of the country following the instructor's guidelines	<u>Pedagogical task</u> –making suggestions with modals –numbers / quantifiers –superlatives and comparative adjectives <u>Skills</u> Reading & Writing Speaking Listening Reading **Participation Structure** Group Work Individual Pair

Table 6: Characteristic of Activities in the perform stage

（**Objective**）	Task Description	Pedagogical task/Skills/ Participation Structure
Perform	– Present posters to classmates, answer questions and respond to feedback –View other posters, ask questions and give feedback	Ask and answer questions. Formulate follow-up questions and feedback Participation structure groups

Post-task: Assess

After the presentations, students sat in their original groups and gave their impressions of the posters they had seen, backing their opinions with reasons. The final assignment was for students to write an individual overview of their impressions of the project and to assign a participation grade（A, B, C, D）to each member of their group. Group performance was gauged by the instructor based on how well each group met the criteria for creating the poster. Individual student grade was a combination of their group grade（teacher assessment）and their group participation grade（peer assessment）in a 50/50 ratio. In several instances, a student's individual grade was lower than the grade earned by their group, due to the student's under participation on the task as determined by their peers.

After the project was completed the instructor held a discussionsession in class to get more feedback from students without the need for students to write a formal questionnaire. Students could express themselves more freely on issues they found difficult to express on paper or didn't think about on their own.

5. Observations on the Task

The results of the task were very positive. All groups completed their task with each

poster displaying varying degrees of originality, content, design, language use and cognition. There were 14 posters created across 2 classes with every country represented except Oman. The following observations were made:

Content criteria

All posters, except one, met the content criteria set by the instructor (see Table 7 for examples). Posters tended to start with general information such as the geographical location, capital, language, and a map of the country, then more specific and detailed information that stemmed from students᾽ research. Overall, the posters were well organized with sections labeled with appropriate headings. While the majority of the posters had information that was well synthesized and accurate, there were some instances of information being incomplete or lacking details on cultural relevance and context. For example, in describing the dish *sarmale* from Romania, two of four posters failed to mention that it was eaten mostly at Christmas, Easter and family gatherings such as funerals. As well, three posters didn᾽t mention that *sarmale* is customarily eaten with a dish called *mamaliga*. A further example is that although all posters on Jamaica mentioned the nation as a producer of Blue Mountain coffee, none mentioned that tea is the preferred beverage locally.

Students᾽ overall impression

Students᾽ overall impressions of the task were very positive despite the mention of some difficulties such as the limited time given to complete the poster, and challenges in making concise sentences to fit a poster format. Students were not given a Likehert or any other scale on which to rank their enjoyment of the task, instead students freely chose what aspect of the task to comment on in their written feedback. As such, having 24 students specifically mention that they enjoyed the process of creating their poster can be taken as a sign that the activity was very well received.

Lack of peer critique

Students seemed to enjoy listening to their classmates᾽ presentations and were eager to ask questions. However, students only gave positive feedback and lots of praise even though they were instructed to give each poster at least one constructive critique or recommendation, on how other groups could have improved their posters. This was not a negative reflection of students᾽ attitudes but more so a function of culture and perhaps a sign that students genuinely liked their classmate᾽s posters.

Group member assessment

On the other hand, students were more willing to critique their group members᾽ performance. Students were not allowed to share their group grading sheet (Supp. Fig. 1). As such, students seemed to make more honest assessments of each member᾽s contribution to the project, and made specific comments on lack of participation in some cases:

-44 students assigned at least 1 person in their group an A

-9　students didn't assign anyone in their group an A
-17　students gave at least 1 person in their group a B
-3　students graded one group member a C
-4　students graded one group member a D

Overall, the majority of students were satisfied with their group members contribution to the poster. Some students mentioned specific skills or ways they felt individual classmates did their part well. Some examples are:
- "Classmate A and B draw pictures. I want to say thank you to them."
- "I am not good at making sentences, but classmate C helped me, so we could enjoy making poster."
- "I completed the poster cooperating with classmate E and F. Thanks to them we could make best quality poster."

Language mechanics

In terms of language mechanics, there were errors in grammar, spelling and punctuation on all posters consistent with students' current English level. Such pedagogical issues included the failure to capitalize some proper nouns and the incorrect use or overuse of the passive tense. An example of the latter is, "The biggest egg which is discovered at Madagascar…" The passive tense is not taught in the first year curriculum, however, teacher reflection and students results highlight the need for some scaffolding perhaps in lesson One during the 'remember and understand' stage. Correcting capitalization may require just a few more well-timed reminders. Finally, although several students mentioned that making sentences was challenging, most texts were summarized in students' own words. There were two instances however, of posters with texts in a paragraph that were confirmed as computer translated.

Higher order thinking questions

During pair interactions there were sometimes lengthy pauses when students were processing information in new ways, making new connections or being asked to think more deeply. This commonly resulted from questions from peers such as, "Did people there seem happy?"（destination not known）; in reference to street children in Cambodia, "Why those children didn't go to school?" In regard to Trinidad, "Why are there many Indian peoples?" and in a query about Kazakhstan "What are the aim of the fight of the people nowadays?" Students were encouraged to tell their partner when they didn't have a suitable answer, but were encouraged to get back to the student with an answer at a later date.

5. Discussion

The approaches used to effectively implement and use Bloom's Taxonomy vary significantly in the prevailing literature. One constant however, is the goal of challenging students to

Table 7: Content samples from students' posters

Assignment	Poster content
Etiquette	
Laos	-Street food in Laos: No need to worry. It isn't bad manners to eat while walking!
Sri Lanka	-Manners of a meal: Don't talk during eating. Don't eat loudly from your mouth. Eat by using your right hand and your fingertip.
Connection with Japan	
Cambodia	-Purahokku: It is the raw fish made into salted paste. It is used as the seasoning like fermented soybean paste in Japan -Japan is about 8.1 times that of Cambodia
Jamaica	-Jamaica exports most of the Blue Mountain coffee to Japan. Probably, this is Japanese people's favorite taste.
Panama	-Japan's ship was first ship to pass in new bigger Panama canal in June 2016.
Romania	-Same like Japan, take shoes off in your house and people's house.
Surprising fact	
Madagascar	-Unbelievable! The biggest Egg which is discovered at Madagascar is Aepyornis's egg…The biggest fossil of their eggs which were discovered until now is 33 centimeters long and a radius of 24 centimeters.
Trinidad	-Hottest pepper in world by Guiness Record book is Trinidad moruga pepper. -Biggest coral that shape like brain in the world. It is yellow and its size is 3 meters tall and 5.3 meters wide.
People of Interest	
Jamaica	-Usain St. Leo Bolt: He is a retired Jamaican sprinter. He is the first person to hold both the 100 metres, 200 metres and 4 x 100 metres…..He has eight gold medals. In World Athletic Championships, he won eleven times.
Terms from textbook	
Sri Lanka	-The biggest city is Colombo. It is 752,933 km^2 -The tallest mountain is the Mount Pidrertalla Gala. It is 2,524 meters *Other examples can be seen above

perform at higher cognitive levels. In this study, with the help of scaffolds provided by selected tasks of increasing complexity, students transitioned from reading factual sentences about destinations and monuments in a textbook, to describing Japan and other familiar countries using the vocabulary and language they had learned. Finally students moved to higher levels of processing language by providing a detailed introduction about a country they knew very little about or had never heard of before.

In this study, integrating a balance of process (reading, summarizing, researching, writing and information exchange) and a tangible outcome (the poster) aided students to develop in content and linguistic skills within the framework of Bloom's Taxonomy. Briefly, this study suggests that Bloom's Taxonomy can be applied to tasks in the following steps:

1) Identify a chapter from the course textbook that is ideal for a task
2) Decide the task objectives, i.e. the skills students need to demonstrate in the final product
3) Decide a tangible outcome for students to produce such as a speech, an essay, a poster, a book report etc.

4）Use Bloom's Taxonomy to break down the objectives identified in step 3 into levels of practice e.g. from controlled practice to independent production, or simple forms to complex forms

5）Create objectives for each level of practice using the verbs suggested in the taxonomy. Use these objectives to create an array of schema building tasks that cover the grammar, vocabulary, and context necessary for the task

6）In designing the activities in step 4, incorporate as many of the four key language skills and participation structures as possible

7）Allow students to practice and then complete the task

8）Perform assessments: teacher-student, student -teacher, teacher-task, student-task, and student-student assessments as is appropriate for the given learning setting

For Bloom's Taxonomy to be applied effectively, the activities within the task should increasing in complexity and or difficulty as students move up the hierarchy. Tomlinson suggests, "Only when students work at appropriate challenge levels do they develop the essential habits of persistence, curiosity, and willingness to take intellectual risks"（2001, p. 5）. In this study using Bloom's Taxonomy to identify suitable learning objectives led to the creation of activities of increasing difficulty that challenged the students to expend more effort as they moved up the taxonomy. Not only did Bloom's Taxonomy lend rigor and structure to the overall task, the taxonomy proved instrumental in facilitating objectives to be defined and refined to better accommodate multiple participation modes, and the integration of the four key skills throughout the task. It was an efficient method of planning for the instructor, and for transitioning the classroom from practice-presentation-production, to autonomous inquiry and authentic performance that widened students' awareness of other cultures.

Students learn language skills more readily when they can transfer their learning to new or more complex situations a process more likely to occur once they have developed a deep understanding of the content（National Research Council, 2001）. Requiring students to present a tangible poster of a little known or completely unknown country encouraged active, experiential learning and piqued students' natural curiosities so that they sought to learn the language required to complete their task. Posters showed a wealth of vocabulary, and syntax that were not covered by scaffolding or in prior lessons. Albeit the instructor noticed an over-reliance on internet-based sources among the groups, students were at least motivated to combine their existing content and language skills with new ones they discovered on their own, and, to find the answers to satisfy their own curiosities. This is not entirely surprising, TBL is said to intrinsically motivate students, in that they are willing to invest more, in time and effort, to complete their task even in the presence of challenges and difficulties（Deci & Ryan, 1985）（Bell, 2010）.

Another positive outcome was that the four key language skills were successfully integrated in this task. Ease of skill integration is a positive feature of TBL since tasks can be designed to require listening, speaking, reading and writing to complete the task. As well, this integration of language skills promotes authentic use of language and develops genuine

communicative competence and language proficiency in learners (Nunan, 1999). By designing activities for each level of the framework, it was easier to identify opportunities to balance the mix of skills that students were required to practice at each stage of the task. Practicing multiple language skills in each class period, seemed to make the learning activities more interesting as students relied on a changing mix of skillset at each cognitive level.

6. Recommendations

Students had high productivity and performance through-out this task and if targeted improvements can be made, this can lead to even better outcomes in future semesters. For instructors willing to apply this or similar tasks of this nature to their curriculum, the following factors can be considered to further refine the task:

- Encourage students, especially those who have never travelled abroad, to read about popular destinations for residents in their country. The ideal timing would be after the first survey of students' travel experience has been collected. This timing would allow full participation from early on in the task.
- Create a more detailed post-task self-assessment for students to better understand their perception of this mode of learning and allow for deeper reflections on their learning. For example, students could be asked how they would improve their poster after seeing the work of other students.
- Give students the opportunity to make a quiz to accompany their poster, so other classmates can engage in more active listening during the performance stage.
- Add an element of technology to the task, by exploring the possibility of students creating a video recording of their poster presentation, the video can be uploaded to a secure platform, and this would allow further student interaction.

Conclusion

This study provides an example of how to apply Bloom's Taxonomy to an English TBL task and what activities can be created to meet the cognitive demands of each level of the taxonomy. The results show that Bloom's taxonomy lent structure to the task and allowed higher order learning objectives to be achieved. Students practiced schema building tasks using countries they knew reasonable well and were then cognitively challenged to produce a poster about countries and cultures they didn't know existed. Importantly as well, by combining TBL with a taxonomy, the above results could be achieved while employing multiple participation structures and more importantly by integrating the four key language skills throughout all the cognitive levels of the task.

The importance of this research is to encourage educators to expand on textbook activities by assigning tasks that challenge students cognitively. By adapting a framework of their choosing, instructors can be deliberate in designing tasks that have clear learning objectives and more personal meaning for students. As language educators become more skilled at

incorporating cognitive rigor in their lessons, students will rise to meet the challenges of these learning opportunities and student productivity and learning gains within these complex tasks may likely increase.

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Supplementary Table 1: Samples of schema activities within the task

Dictation: read the following numbers to your partner 27　194　14,329　38,071　215,710
Complete the sentences with the correct word and choose the correct response 1. How _____ does it take?　　　　　　　　−I think it's about 900 km. 2. How _____ is it from Sydney to Brisbane?　−About 2 hours. 3. How _____ is the Eiffel Tower in Paris?　−It's 324 m.
Listen and answer the following questions: 1. What is the population of Riverside town? _____ 2. How high is Mt. Kilimanjaro in feet? _____
Circle the correct answer Which is bigger, Australia or Brazil? Which is longer, the Amazon River or the Nile River?
Answer the following: What are three impressive features about Japan? What are three little known facts about Japan? What are three must-see places in Japan? What are three etiquette that visitors to Japan should know?

Supplementary Table 2: Countries involved in the task

Levels	Countries involved in tasks	Level of familiarity
1-3	Japan	Very familiar – born and raised
4	France, Korea, Indonesia, Guam, Hawaii, Australia	Familiar – visited once, seen pictures or seen on TV, heard of from other sources, have an idea of the general location
5	Country Pairs 1. Panama *10 ／ Belize *51 2. Romania *13 / Kazakhstan *2 3. Laos *7 ／ Cambodia *1 4. Cameroon *5 / Madagascar 5. Jamaica *1 / Trinidad & Tobago *47 6. Sri Lanka * 1 / Oman *15 *Number of students out of 60 who had never heard of the country.	Little to none: didn't know existed, have never visited, may have heard of it, have never seen or read anything concrete about it, my teacher is from that country, have no idea of its general location

Supplementary Table 3: Summary of Poster Guidelines

Roles and Supplies
• Groups should decide the roles for each member. • Each group member should help to prepare the text for the poster and give peer-corrections of the text. • Prepare materials needed for the poster except paper, magnet and tacks to display the poster. • The minimum size for each poster is 2 sheets of A3 paper
Content
• Introduce the geographical location, capital, population, places and people of interest, world heritage sites, a surprising fact, local food, souvenirs, local etiquette etc. • Find at least one way to connect the country with Japan（a similarity, difference etc.） • Use terms and grammatical forms from the lessons: superlatives, modals, numerical values, units of measurements etc. • Do not use unrelated pictures. All pictures should accurately match the places/things that are described in the text. Pictures should be labeled. • Balance the size and number of pictures with the volume of text. Use more text than pictures. • Draft posters in pencil then peer-check for errors, grammar, clarity etc. • Meet with the teacher and get feedback, then create the final poster.

Supplementary Table 4: Sample Peer Assessment and Student Comments

Peer Assessment Student 1 B Student 2 A Comments: I think making a poster in English is very difficult for me. Because English use many words.
Peer Assessment Student 1 A Student 2 A Student 3 A Comments: We tried some group-work together. We made a poster hard and enjoyed making it. We corporated something.
Peer Assessment Student 1 A Student 2 A Student 3 A Comments: We decided work assignment and can complete the project. I enjoyed it.
Student 1 A Student 2 B Student 3 D Comments: It was very difficult because I'm not good at painting. But I was very fun when we finished making a poster.