Using Technology in a Curriculum Unit for Japanese University Students: Bloom's Revised Taxonomy

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This paper will demonstrate an instructional unit that can be used in a classroom of Japanese L2 English learners. The goal of the unit will be to incorporate specific skills that are developed in Bloom's Revised Taxonomy (Anderson et al., 2001). The Taxonomy is discussed in educational communities as a way to foster and promote high-order thinking skills. As educators, we should try and develop our students' ability to solve real-world communicative problems using the target language. The critical thinking skills that are found on the upper end of the Taxonomy are crucial to solving those communicative problems. Furthermore, as Soleimani (2016) summarizes, skills development can start when students move upward from the lower levels of Bloom's taxonomy where basic elementary knowledge is first obtained. The Taxonomy is also a useful framework for educators as the Taxonomy can be used as an effective protocol in assessing students' knowledge (Hamdan et al. 2013). Finally, this paper will try to demonstrate how to integrate technological aspects into the instructional unit while keeping the Revised Taxonomy in mind.

As stated, this article will show how English instructors in Japan can use the Revised Taxonomy when planning an instructional unit for university L2 learners. The students at this author's university take a variety of different English lessons throughout the week. Some instructors, in particular, Japanese teachers of English (JTEs) cover grammatical structures and forms using the Grammar Translation Method (GT-M) which as Schaaff explains, "⋯ is a practice done non-communicatively and de-contextualized, remaining at the sentence level" (p. 33). In this author's classroom the overarching theme is communication so everything is tied to improving the students' communicative ability. In this curriculum unit, the goals are to have our students learn how to use descriptive adjectives and use those descriptive adjectives to describe things they see in their daily lives.

Ideally, students should already have a strong grasp of descriptive adjectives and how to use them as they were taught the basics of the grammar in their grammar and writing classes. This unit's goal will be to expand the range of adjectives they can use by having them learn new vocabulary and create original output using that vocabulary.

Standards and Assessment

Unfortunately, this paper's author did not have any standards to follow and guide lesson planning that comes from the author's school or the Education Ministry of Japan. However, as a general rule, the students at the school must take the EIKEN IP proficiency test to determine their class level. EIKEN is "an abbreviation of Jitsuyo Eigo Gino Kentei (Test in Practical English Proficiency), one of the most widely used English-language testing programs in Japan" (EIKEN, n.d). The EIKEN test is formulated around seven pass or fail levels with level one being the highest attainable. Eiken levels 3, pre-2, 2, pre-1 and 1 also require a spoken and written component. The target level for this curriculum unit is EIKEN level three. This is based on the author's experience teaching first year university students who have been placed in lower level Communicative English classes. The level three test consist of,

> "a compilation of the basic skills acquired for Grades 5 and 4. This level is aimed at Japanese junior high school graduates. Examinees are expected to be able to understand and use language concerning familiar, everyday topics, such as likes and dislikes, and basic personal and family information." (EIKEN, n.d).

The grade three EIKEN test includes the use of descriptive adjectives in both the written portion of the test and for the interview section of the test where students must describe a picture card that is given to them. This article's author recommends using the EIKEN test as one method to measure student achievement. The results of the test will give classroom teachers clear data points to make informed decisions regarding lesson planning. In addition, this author also recommends developing a rubric specifically for this instructional unit that emphasizes creative output and students' speaking ability. A rubric would allow the teacher to assess their students while minimizing teacher prejudices. An example of the rubric would look as such:

Table 1. Evaluation Rubric.

	Above Average	Below Average
Fluency	Spoke in connected sentences	Broken sentences that had no relation with each other
Grammar	Made few mistakes and could be understood	Made enough mistake to make understanding difficult
Vocabulary	Used more than 5 descriptive adjectives learned in the Unit	Used only 1 or 2 descriptive adjectives learned in the Unit.
Use of Visual Aids / Music	Tried to make presentation interesting with pictures or background music	Just read sentences without any visual aids.

The instructional unit, therefore, asks students to develop their original English sentences and describe something or someone in their lives that they are really interested in. They must use descriptive adjectives from a pool of adjectives that are learned throughout the unit. Of course, they can go beyond using the adjectives given to them, but they must show mastery of the vocabulary given to them as a base requirement. In addition to the adjectives, the students will also have to learn a variety of different sentence patterns to describe their interest.
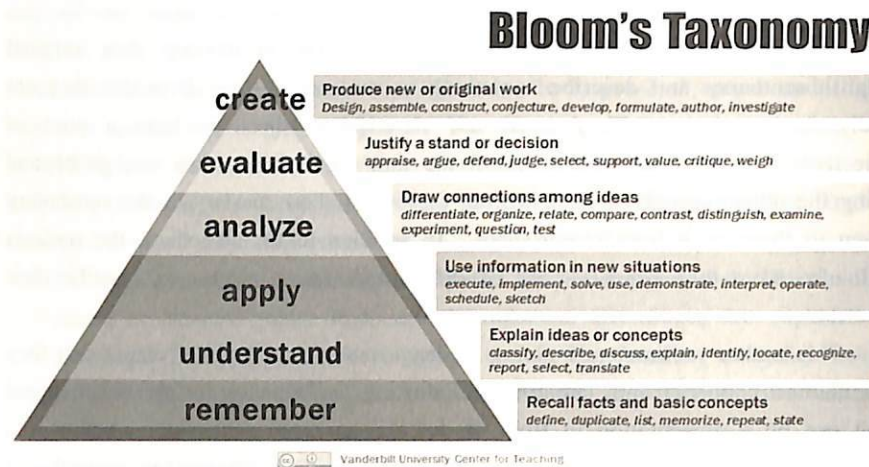
This author recommends giving students multiple methods of output that they are able to choose from. The final culminating performance for this instructional unit can be a presentation in front of the class, a hand-written presentation or a recorded presentation that can be audio only with accompanying paper-based materials or video and audio. Educators can allow students a lot of flexibility when it comes to presenting their culminating performance. This gives students a greater sense of control over their work and helps students who might not be comfortable speaking in front of their peers. In order to manage class time more effectively, it is important to group students together based on their chosen output method. The students who choose to give an oral presentation in front of class would be grouped together, as would the students who are doing a written presentation. This allows the teacher to help them develop the skills they need to finish the assignment as a group instead of spending considerable time and effort working with students one on one. Additionally, students working together

can benefit from feedback and help from their peers.

Bloom's Revised Taxonomy

As stated earlier, this paper looks at how to integrate the Revised Bloom's Taxonomy into an instructional unit. We can understand the revised taxonomy was "developed by a group of cognitive psychologists, curriculum theorists and instructional researchers, and teaching and assessment specialists in response to findings from more current research about our understanding of learning 'emphasizing what learners know (knowledge) and how they think (cognitive processes)' (Anderson et al., 2001, p. 38). The below graphic by Armstrong (2016) can help students and educators visualize the Taxonomy.

Fig.1

Bloom's Taxonomy

create — Produce new or original work
Design, assemble, construct, conjecture, develop, formulate, author, investigate

evaluate — Justify a stand or decision
appraise, argue, defend, judge, select, support, value, critique, weigh

analyze — Draw connections among ideas
differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

apply — Use information in new situations
execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

understand — Explain ideas or concepts
classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

remember — Recall facts and basic concepts
define, duplicate, list, memorize, repeat, state

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The Taxonomy can be applied to an instructional unit with the following elements implemented as such:

- Remembering. For this element, it is important for the students to memorize the new vocabulary words and word phrases given to them. The focus being descriptive adjectives and useful phrases they can use to describe some interesting topic they want to introduce. The teacher should introduce the vocabulary by using multiple methods of representation. Not just simply giving them a list of words to memorize. It will be interesting for them to see the words being used it context. Using existing clips from YouTube or another video website, the teacher can show the students the words being

used by native English speakers in realistic settings. For the students who learn better by reviewing at home, the teacher can give them handouts of the target vocabulary with various word games or puzzles do as homework.

- Understanding. Translation is one method to check the students understanding of the vocabulary. An even better method to check understanding is to have the students make original sentences in English using the vocabulary and/or draw pictures in a manga/comic format that uses the target vocabulary and sentence structures. This allows for multiple means of expression.

- Applying. This level of the taxonomy starts to require a higher level of thinking and organization. Here the teacher should have the students start to think about their end project. They must work together with their teammates to identify the most useful words they can use and begin constructing a layout of what they want to introduce as their final project. Having the students working together at this stage will really help the slow learners gain support from the fast leaners who are better organized and have better critical thinking skills. They must create an outline of their final project and related words for this part of the unit.

- Analyzing. We find ourselves further up the critical thinking scale. The students will start to build out their presentation with sentences and other supplementary material they wish to use. The teacher should ask the students to proofread each other's drafts. First in their own groups and then between different groups at the group level. Assigning one leader per group who will act as a mediator between the individual members of their team and the other groups. Here they will be able to compare, contrast and perhaps find mistakes in their own work by analyzing the work of the other members and groups. This will give them additional motivation and inspiration to do better work.

- Evaluating. This stage is similar to the Analyzing stage but it requires the students to go back to their original drafts that were corrected by other students. They should determine to either accept the proposed changes to their drafts or to keep their work as is. This type of evaluation is crucial for the students to learn to question any type of feedback they receive in their schooling. In this teacher's experience, students rarely question the

teacher after being corrected. This creates a huge feedback vacuum that deteriorates not only the quality of the students' education but also the ability for the teacher to develop their craft and subject knowledge.

- Creating. The final stage of the taxonomy has the students putting the final touches on their projects outside of their groups. It is important for them to think by themselves at this stage about what else they should do to improve their presentations. This is also the last chance they have where they can ask the teacher for guidance or help before they finish. Here students will finish printing, recording, editing and polishing their presentations and turning it in or performing it live in the classroom or through some other recorded medium.

We can see that each stage provides a structured framework to work within. Having this framework in mind can really help teachers scaffold the learning occurring in the class ensuring that even slow learners are benefiting. In addition, the Revised Taxonomy helps students build the organizational skills they will need when they finish their schooling and enter the workforce. Bloom's Revised Taxonomy can be utilized as a teaching tool to assist to make a balance among assessment and evaluative questions in class, assignments and texts to guarantee that all orders of thinking are practiced in student's learning (Soleimani, 2016).

Introducing Technology

The three Taxonomy stages that this author recommends using technology to the best effect are Remembering, Analyzing and Creating. For the Remembering stage, using various online vocabulary building games and exercises will expose the students to the material in a multisensory manner. The games can also be engaged with when the students go home or when students are using their smartphone and tablets. As mentioned earlier, multiple methods of representation help students who learn in different ways. It would be beneficial for them to see the target vocabulary being used through video clips on YouTube or by the teacher making the video clips themselves. Students seeing their teacher engaged with the material they are learning will help them connect and relate to the instructional unit.

The Analyzing stage can benefit from collaborative tools such as Google Docs. Making drafts and corrections by hand among all the students can be logistical difficult for teachers in charge of large classrooms. However, technology can really help in this regard. The great proofreading and revision control Google Docs or Microsoft Office Suite gives us is invaluable. Students who are doing video presentations can publish drafts of their work to a private YouTube channel or simply upload their videos to a shared Cloud drive service such as OneDrive or Dropbox.

The last stage of Creating is where students will show off their work to the class. Depending on the method of presentation the student has chosen will determine the amount of technology involved. However, even if the student choses to submit their assignment via handwritten means, it is still possible to scan their assignment into something digital. Regardless of the method, technology will allow the teacher to distribute and show the results to all the students in the class. Some of the best projects can then be shown at an end of year presentation ceremony, this will further incentivize the students to do better at the next opportunity.

Materials

The below table summarizes the materials that will be needed for each stage of the taxonomy. As the unit progresses, there are sure to be some materials or resources that are currently unforeseen. If this is the educator's first attempt to implement such an instructional unit, the materials needed can be refined and improved upon repeated future attempts.

Table 2. Materials.

Remembering	The list of words and phrases to be studied. Various online vocabulary games using the inputted words. Various printouts for the students to do as homework to reinforce and help them memorize the words. YouTube and video editing software to put together the clips that show practical usage of the words and phrases.
Understanding	Worksheets the students will do in class when translating from English to Japanese and vice versa. Worksheets to be done in class that connect the words with pictures. Additional worksheets that have the students drawing original pictures that go with the target vocabulary.
Applying	Example outlines. In addition, templates they can use to start filling out their own outlines. By this stage some students will be working on rough drafts so we need to gather resources for

	filming (smartphones) or booking computer laboratory time for students who want to start on editing or typing their presentations.
Analyzing	A Google Docs account or Microsoft Office 365 account to allow for online collaboration. Scanning hardware or a digital camera to record the drafts that are handwritten.
Evaluating	Students are doing their final revisions here so any additional computer time, template copies et cetera.
Creating	A projector and computer to show all the digital projects to the class. Any support materials the students who are doing a live performance need.

Conclusion

Having Bloom's Revised Framework in mind can really help teachers scaffold learning in the classroom. This ensures that even slow learners are benefiting and advanced learners are not being held back in the classroom. Using technology can further enhance learning by giving students multiple methods of representation and multiple methods of expression of the target material. Having the students engaged with technology can also help give them some of the organizational skills they will need in the future. When students can create original material in the target language they demonstrate mastery and teachers can feel confident their students are engaging their higher order thinking skills. This paper shows an example curriculum unit framework and an evaluation method that can be used by teachers who are looking for a structured method of class instruction that can benefit a wide range of L2 learners.

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Abstract

This paper will demonstrate an instructional unit that can be used in a Japanese classroom of L2 English learners. The goal of the unit will be to incorporate specific skills that are addressed with Bloom's Revised Taxonomy. In addition, the author will show the benefits of using technology that further enhances teacher efficacy and student learning. Each stage of the Revised Taxonomy will be explained and an example of practical lesson activities will also be detailed for teachers to use in their classrooms. The Revised Taxonomy has shown that when students can create original material in the target language they demonstrate mastery of the subject and teachers can feel confident their students are engaging their higher order thinking skills.