Flipped Classroom Practice for Japanese Language Education: Grammar Instruction for Advanced Learners

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This paper is a practical report on advanced Japanese language study for university and graduate school, reporting on an implementation of the Traditional Flip method for grammar instruction contrasted with a Flip method that adds tasks such as practice exercises to approach more closely a learner-centered style.

As defined by Bergman and Sams (2012), "the concept of a flipped class is this: that which is traditionally done in class is now done at home, and that which is traditionally done as homework is now completed in class." This approach has been implemented at levels from elementary to advanced education at a great variety of institutions. Cockrum (2014) distinguishes three levels of development in the approach. In the Traditional Flip the learners watch video lectures before class, and the class time is devoted to following up on matters they were unable to understand on their own. The second level takes three forms: Flip Mastery, in which the learners proceed at their own pace, completely mastering each unit before proceeding to the next; Explore-Flip-Apply, in which learners are given a task with which to explore matters related to a topic before viewing the video lectures, and finally fix their learning with further tasks; and Peer Instruction Flip, in which learners who have previously watched a video collaborate in class to find answers to problems. At the third level a variety of Flipped Classroom models are constructed based on experience from the first two levels. Flipped Classrooms are particularly well developed in the physical sciences, and have been credited with lowering dropout rates, improving test scores, raising learners' awareness and increasing the time spent learning out of the classroom. There is relatively little research on applying this model to foreign language instruction, however, and there had as yet been no second-level Flipped Classrooms in Teaching Japanese as a Second Language.

We thus applied the Flipped Classroom to Japanese grammar instruction and examined its efficacy. The authors' institution has a Japanese language program offering courses at six levels according to the learners' ability, with each level consisting of three 90-minute classes five days a week: one an integrated class, one on reading, and one on written and oral expression. The implementation reported on here was carried out in the grammar section of the integrated class. In the grammar lessons the instructor would normally spend time on explaining grammar, followed by a simple oral drill and an exercise in writing sentences, but little time could be devoted to comparisons with previously learned grammar, productive activity by the learners and feedback from the instructors. As a result, the main result of a lesson would

stop at understanding of the grammatical item, and many of the students would still be unable to actually use it. In order to overcome this problem Flipped Classrooms were adopted, in which the instructor-centered lectures would be viewed as videos outside the class, so that during the class meetings there would be more opportunity for production of the items being learned, and more instructor feedback and interaction among learners, with the aim of enhancing learners' motivation and active mastery of the grammar items.

Learners participating in the study were 120 advanced-level Japanese Language learners: 40 in a class without Flipping (Group 1), 40 with Traditional Flipping (Group 2) and 40 in a class with the second level of Flipping (Group 3). Data were collected from September 2013 to January 2014 for Group 1, from September 2014 to January 2015 for Group 2, and from September 2015 to January 2016 for Group 3. Data collection and analysis were performed as follows. First, access logs to the university's Learning Management System were obtained to determine the viewing rates for the lecture videos. Next an ANOVA was made of results of the term-end achievement tests for the groups with and without Flipped Classrooms (Groups 1 versus Groups 2 and 3), and a correlation analysis was made of video viewing rates versus achievement test results. Finally at the end of the courses questionnaires were given to Groups 2 (34 learners) and 3 (40 learners), and semi-structured interviews were conducted with learners who had high and low video viewing rates.

The results showed that the viewing rates were 69% for Group 2 and 85% for Group 3. Viewing rates tended to be in the upper 80% range or higher at the beginning of the courses, but gradually declined thereafter, finally sinking to 59% for Group 1. In Group 2, on the other hand, the decline was relatively slight. This seems to be because the learners who did not view the videos could not participate actively in the classroom, which gave them an awareness of the importance of this preparatory activity. Next, average scores on the achievement tests went up 3.1 points for Group 2 and 10.0 points for Group 3. As a result of the Flipped Classrooms, more learners achieved over 90 points on the achievement tests, and the number who got 70 points or less greatly declined. This bottom-raising effect was particularly notable with Group 3. Next, a significant difference among the three groups was demonstrated with an ANOVA ($F(2, 117) = 5.73$, $p < .01$). Also, a multiple comparison analysis (Bonferroni method) showed a significant difference between Groups 2 and 3 ($p < 0.5$), but did not show a significant difference between Groups 1 and 2. Possibly this is because the effect of viewing the videos was not reflected in the Group 2 results, lessening the overall effectiveness of the Flipped Classroom method, while the preparatory tasks combined with the videos in Group 3 led to an increase in time devoted to production activity by the learners in the classroom. Further, a relatively high correlation between individual viewing rates and test scores was observed in both Groups 2 and 3 (Group 2: $r = .560$, $p < .01$; Group 3: $r = .541$, $p < .01$). Finally, a t-test showed a significant difference in test scores within Groups 2 and 3 between the sets of learners with high and low viewing rates(Group 2: $t = 4.084$, $df = 19$, $p < .01$; Group 3: $t = 2.098$, $df = 19$, $p < .05$). These results together show that learners who actively make use of the lecture videos achieved high scores on the tests.

In response to the questionnaire item, "Were the video lectures useful?", 83% of learners in Group 2 and 96% of learners in Group 3 replied affirmatively, and learners in the interviews indicated such merits of the video lectures as ensuring multiple exposures to the contents and the possibility of multiple

viewings. On the other hand 18% of learners in Group 2 and 4% in Group 3 responded to the questionnaire that the videos were not useful, and explained, for example, that even without watching the videos they could understand from the instructors' explanations on the following day, showing that it is difficult to encourage the learners to watch the videos when they do not feel that they are necessary. Also, use of the lecture videos produced a change in learning styles, and it may be surmised that learners utilized the videos in consort with their own learning strategies and lifestyles. Also learners also expressed the opinion that they had more chances to speak up in class, demonstrating that they recognized the merits of the Flipped Classroom and the resulting changes in classroom activities. On the other hand, some learners gave reasons for not viewing the videos such as difficulty in setting aside time for study, loss of motivation, and slowness of Internet connections.

Flipped Classrooms are now being implemented at a variety of educational institutions, but this is not a method that can absolutely be applied to all situations. Nevertheless, we believe that it is a method worth applying as a way to supply the instructor-centered introductory part of a lesson in video format, allowing direct contact in the classroom to be devoted to productive learner-centered activities. On the other hand, there are many issues to remain to be dealt with, such as the matter of how to make best use of this classroom time, how to adjust to the altered roles of the instructors, and how to accommodate learners who prefer lecture-based classes. We hope to come to grips with these issues in the future and continue to construct the Flipped Classroom model for Teaching Japanese as a Second Language.

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