

Japanese Flipped Classroom Knowledge Acquisition Based on Canvas Web-Based Learning Management System

Wan Li Shi^{1,*} and Yu Hui Zhang¹

¹ Gannan Normal University, Ganzhou, Jiangxi, 341000, China

Abstract

INTRODUCTION: Since 2010, flipped classrooms and Canvas-based online learning spaces have been widely recognized by colleges and universities, changing the traditional Chinese learning space.

OBJECTIVES: To ensure that students learn effectively, learning management systems must be applied. The issue of integrating classroom space and electronic learning management systems gives students the freedom and flexibility to manage their time after school.

METHODS: In this study, Japanese language skills were learned through questionnaires, interviews, and classroom observations, and two students with similar disciplines and conditions were selected from the experimental and control categories for a learning reform experiment during the semester's learning cycle.

RESULTS: By comparing the characteristics and effectiveness of the experimental and tutorial courses, an appropriate Japanese language course was designed and developed, and some constructive suggestions were made for the application of the Canvas network to Japanese language courses.

CONCLUSION: The use of flipped teaching methods and structured e-learning methods in the education of basic Japanese language majors can improve students' academic performance and sense of cooperation.

Keywords: Canvas, web-based learning management system, Japanese language, flipped classroom

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*Corresponding author. Email: swl@gnnu.edu.cn

1. Introduction

With the development of educational technology, the flipped classroom model is also developing. Students watch videos, do homework and study in the classroom after school. You can see that both students and teachers are progressing in the ruined classroom[1-2]. To ensure effective student learning, learning management systems must be applied. The issue of integrating classroom space and e-learning management systems gives students the freedom and flexibility to manage their time after school, which is more common in teacher-student interactions. In this way, can improve classroom skills and help Japanese

teachers become true missionaries, teachers, and problem solvers[3-5].

In China, the traditional learning model focuses on "learning" while the flipped classroom and Canvas e-learning network focus on "learning"[6]. Since their implementation, significant results have been achieved. Changes are also occurring in classroom education at universities and higher education institutions. One of the most worrisome is the shift from teaching to learning. Flipped courses and the Canvas classroom model are fully targeted to students and provide them with opportunities for active learning.

Research on flipped courses and fabric online learning started late in China, only four or five years ago.

Currently, practical and theoretical research is in the early stages of research and weaknesses exist. At present, research on the structure of flipped courses and Canvas e-learning in China is mainly based on literature studies and CVs with detailed descriptions of foreign communication and e-learning models and processes for self-assessment. However, there are relatively few experiments and studies on teaching practices and few real results based on the national context. The current research is still at an early stage, not mature enough, not deep enough, and still in the early stages of research[7-9].

Teachers should integrate learning with thinking, knowledge and practice, and teach according to students' abilities. Pre-classical student autonomy plays an important role in building knowledge in the classroom. The information provided by the teacher must not be limited to videos. Therefore, the use of electronic learning management systems is particularly important for course translation[10]. A learning management system is an important prerequisite for facilitating learning in the classroom. Leveraging support activities can facilitate individual learning and collaboration. the Canvas Education System was developed in 2012 by the U.S. Education Agency. Creating a comprehensive cloud-based software package to support science users. canvas is an easy-to-use, fully functional, affordable and popular open platform[11-12].

Currently, the training team is dedicated to facilitating and monitoring teacher development. Students are the most important element in the classroom, and so is Japanese language teaching. Innovation in learning methods is undoubtedly the most important role of students in learning. Expanding and developing theories of Japanese language teaching and learning[13-15]. As a new form of learning, flipped learning helps to delve into and investigate many issues in Japanese language teaching and learning. The combination of flipped classrooms and learning management systems is the trend of flipping the classroom. In the new learning model, researchers can identify new problems and propose new methods to guide new ideas. Restoring Japanese education is not only a bold attempt to combine the restoration model with a Japanese learning platform[16].

2. Literature Review

2.1. Canvas-Related Review

The Learning Management System (LMS) is a learning management platform that provides online applications or technical course content for universities and colleges, as well as distance learning and education management[17-18]. The LMS provides a variety of educational resources for students. In addition, the Internet supports the delivery and use of multimedia elements such as audio, video and interactive hypermedia. Many companies have developed various e-learning systems for higher education to facilitate learning in an e-learning environment[19]. With the support of advanced technologies, e-learning

management platforms in foreign countries are developing more and more rapidly (Currently, some European and American countries are building e-learning platforms with advanced technological content and functionality. These platforms allow not only navigation and resource sharing but also synchronous two-way communication between teachers and students (e.g., virtual chat rooms, Blackboard, video conferencing, etc.).

Science leadership has many advantages. Karen and Harrison identified many advantages of e-learning technology, such as low cost, time savings, rich resources for students with diverse interests, the ability for students to track progress, and the ability to help students adapt effectively, reduce stress, and increase satisfaction through e-learning technology. common Canvas models.

$$KZ_{i,j} = \beta_0 + \beta_1(X_n)_{i,t} + \sum_k \tau_k ControlVariable_{k,i,t}$$

(1)

Equation (1) represents a statistical approach to Canvas common variables, mainly consisting of control variables.

$$Canvas_{it} = \delta_2 (Year_i fixed_effect_{i,j}) + \delta_3 (Industry_i fixed_effects)_i + \epsilon_{i,t}$$

(2)

Equation (2) then illustrates how the Canvas model is calculated.

Similarly, science governance systems are relatively weak. Today, science and technology have become an important part of education and learning. Teachers around the world are struggling to bring technology into the classroom, and this invisible pressure is forcing them to rethink and improve their teaching methods. The impact of technology has plagued Chinese teachers, especially Japanese teachers, who have adapted to traditional teaching methods for years. Japanese language courses are packed with students from all over the world with different cultural traditions and learning styles. It would be a disaster if continued to teach the way you can teach but students don't like. the LMS focuses on e-learning, but other applications provide platforms for different forms of learning, such as online courses, blended surfaces, and flipped courses.

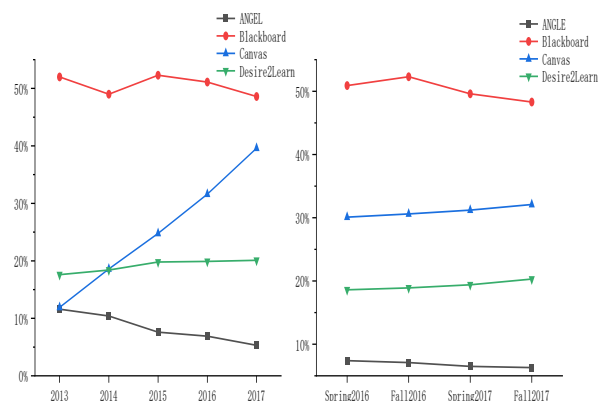


Figure 1 Percentage of adoption of different LMS learning management systems

Figure 1 shows the largest variations of LMSs in the largest U.S. schools (over 2,000 students). Of course, they don't like this except for Canvas, Moodle, Blackboard and other LMSs. In the U.S., Canvas continues to see relatively significant growth in elementary and middle schools (5 students) compared to the "other" LMSs used by most organizations in Figure 1. In the meantime, Canvas has proven its ability to penetrate the rest of the world[20-21].

2.2. A Review of the Literature on Flipped Classrooms

Teaching and research have received increasing attention in recent years[22]. The dynamic development of flipped learning is largely due to the combination of two existing areas of research: e-learning and active learning, whose impact is one plus one. At the core of eLearning is the learning of new material before class, reducing the teacher's time in the classroom through active student learning and achieving a more practical and effective application of knowledge. This reorganization of teaching methods is called "flipping" and contrasts with traditional teaching methods. Teachers typically bring new content to the classroom in the form of instruction and allow students to edit, practice, and test the new content to assess the impact of the instruction[23].

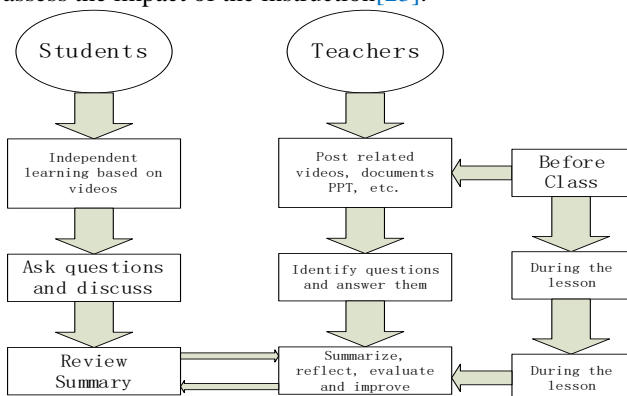


Figure 2 The teaching and learning process in a flipped classroom

Bergman suggests that the order inside and outside the classroom has been reversed. ruger, Pratt, and Treglia argue that class disruption means that traditional class now occurs outside of class, and vice versa. However, this definition is incomplete. They see a flipped course as one video lecture after another, but this is only the tip of the iceberg. A successful translation course is more than just saving and sending content to students before the course begins. Course content should be more important than post-course videos. In this model, learning time can be spent on student-faculty interaction, concept discussions, problem analysis, and in-depth content research. Students have more time and experience to solve problems and practice. Previously, teacher-centred classes have been transformed into active, student-oriented educational

institutions.

Shapiro argues that people have different learning styles that produce a dual teaching effect, and Mr Treglia notes that the new return model will allow traditional classroom instruction to move from classroom to classroom and outside activities to move from classroom to classroom. Sams and others argue that the translation classroom contains inaccurate information and define translation learning as personal instruction that requires students to take responsibility for their learning without forgetting the teacher's responsibilities. To address this issue, they suggest that teachers and students rethink the role of reflection in optimizing student learning. In addition, the flipped classroom teacher is the teacher rather than the teacher, which increases the personal interaction between the teacher and the students. Hamdan et al. points out that teachers can create instructional videos and other materials themselves or collect them from reliable websites.

Table 1 Comparison of the flipped classroom and traditional classroom models

	Traditional Approach	The new networked approach (flipped classroom)
Teacher	Knowledge transferor	Instructor
student	recipient	Active Learners
Courses	Pre-learning, Learning, Reviewing	As shown in Figure 2
Learning method	Textbook, board, etc.	New online teaching
Teaching method	Teaching + self-study	Integrated multi-faceted learning
Assessment scheme	Test paper assessment	Multi-assessment

As Moransky points out, flipped learning significantly improves learning efficiency. The engine found that flipped science was positively correlated with the Japanese writing scores of students studying in the UAE. Hong Lei used a similar quasi-experimental approach to study Japanese students in Taiwan and Korea. The results showed significant improvements in student statistics compared to students who did not use the inverse classroom model and showed advantages in their learning efficiency and active participation. The latter mastered Japanese vocabulary, grammar and other ontological knowledge. Professor Hong investigated the effect of returning to school on Japanese students' performance, attitudes and engagement, i.e., the difference in clear grammatical knowledge between the experimental group (FLIP group) and the control group. This is because there were no explicit grammar lessons in the flipped group. In short, most empirical studies on second languages have been conducted after high school graduation, suggesting that second language programs are more appropriate for older adolescents or adults than for children.

3. Research Questions and Study Design

3.1. Research Questions and Hypotheses

Table 2 shows the learning matrix based on the program. As part of the Japanese language activities at the University of Northern Colorado, the authors learned from general educational contacts such as roundtable discussions, group discussions, and workshops. Each member has his or her characteristics. By analyzing the different learning activities, you will discover the interests of each student and then conduct the following research and analysis. The following table shows the various measures taken to develop students' competencies.

Table 2 Matrix analysis of research approaches

Horizontal and vertical dimensions	hearing	oral language	reading	writing	content	thinking
Pre-learning	0	1	1	0	1	1
Course writing	0	0	1	1	1	1
Group discussion	1	1	0	0	1	1
Mutual help groups	1	1	1	0	1	1

Students should stay home alone and have more time for personal reflection before class. This link uses the Canvas web platform. Teachers post assignments in the preschool homework module and ask students to engage in independent educational activities, such as reflective writing or posting other comments. To read the preschool class, students can read a variety of online learning materials (e.g., "Yang Hao Soho" papers, articles, or science warnings on Facebook). Students must read and prepare assignments in class roundtables. During the course, students sit face-to-face. One has three minutes to talk about his work and the other has time to ask questions and change roles. When each pair is free, the partners get together and start another exchange and conversation. Roundtable participants ask each student to discuss the session with two to four different people. Each round takes more time as students become familiar with the methodology and can ask questions and identify issues. Students are free to choose what they want to focus on as long as it relates to developing the course topic. Group discussions allow teachers to understand students' communication difficulties, provide suggestions and feedback, and guide students to fully understand, demonstrate, and learn. To prepare students for the roles, assignments for the following week are sent to Canvas by the end of the previous week so that students have enough time to prepare the necessary materials. The following measurement models were used.

$$R = \partial_0 + \partial_1 X_1 + \partial_2 BM + \partial_3 DC + \partial_4 \ln size$$

(3)

In the formula, R is the validity value of the Canvas model, and the specific efficiency is calculated based on the validity value, as shown in Equation (4).

$$CDF = \beta_0 + \beta_1 + \beta_2 BM + \beta_3 DC + \beta_4 R + \beta_5 \ln size$$

(4)

where the efficiency of Canvas is calculated, and further statistics of Japanese learning efficiency are shown in equation (5).

$$Canvas_{sa} = R * size + CDF * size^2 + \omega$$

(5)

ω in equation (5) is a random perturbation term.

"The pressures of curriculum and exams combined with time constraints force teachers to use the most effective teaching methods in a limited amount of time, but this limits the possibilities for language development. The flipped classroom offers a new way of learning. It not only disrupts learning tasks inside and outside the classroom but also disrupts classroom leadership.". The transition from an integrated teacher-centred curriculum to a student-centred curriculum not only enhances student independence, authority, and responsibility but also increases teacher productivity. Through the above-mentioned curriculum structure, can see that each student can mobilize different activities of students and develop different competencies. What are the opposite patterns about what actions students want to do, how they perceive each action, and how they perceive the class as a whole? What strategies can help them to participate more effectively in the course? Conversely, the specificity of the class depended on whether it was beneficial to them. Therefore, this chapter focuses on students' perceptions of the translation classroom at the University of Northern Colorado. Data analysis and interview analysis allowed us to identify the learning structures that students need. Therefore, the next step was to move the classroom curriculum based on the Canvas online learning management platform. The research questions for this experiment were as follows.

1. What are students' attitudes and attitudes towards flipped classroom language learning and structure-based Canvas knowledge?
2. What learning steps and strategies did the students use in their learning process?
3. How does the flipped classroom experience differ from the traditional classroom?

3.2. Research Design

The purpose of the experiment was to determine whether the flipped classroom model is appropriate for teaching in Japan and whether the flipped classroom model can improve Japanese language learning skills and increase student achievement. For example, the basic Japanese language class at Guangzhou University in 2015 was divided into an experimental class and a control class. A total of 8 boys and 33 girls participated in 41 sections of the pilot class. 37.5 boys and 32 girls participated in the

control class. Both levels had the same duration, the same learning time and the same materials. The difference was that the pilot class was designed and implemented in a back-to-school format throughout the semester, with standardized exam materials used for the final exam.

The exams lasted one semester. Two students were interviewed. Questionnaires, proficiency tests. Before the implementation of the flipped learning model, two levels were studied and tested, and students at both levels were statistically analyzed along four dimensions: learning goals, content, learning process, and learning impact. This mainly reflected the skills and levels of Japanese students before the introduction of flipped learning in the classroom. At the end of the semester, students in both classes passed the Japanese language test for the second time. To see if there was a significant difference in the final grades of Japanese students in these two classes, students in the experimental class who received the change in learning style were able to improve their academic performance.

Students running the classroom used multimedia equipment and classrooms following traditional teaching methods. Students in the experimental classes used electronic platforms such as WeChat, QQ groups, and QQ file sharing to download pre-recorded videos from their teachers and plan their self-study. The average length of the movie was 10-20 minutes and students' attention was at the highest level. Students using computers, tablets and smartphones should follow the learning process in advance and study independently according to the study plan. Other students who do not have these capabilities can view and study in the library, school computer room and other multimedia devices. During the learning process, teachers use online testing software to assess students' education and feedback and eventually combine different assessment methods to assess the impact of student learning in an experimental class at the end of the semester and the end of the term.

3.3. Research dimension design

In these studies, a semester questionnaire was used with the second-year students who participated in the experiment. The two classes were divided into an experimental class and a control class. The questionnaire investigated whether the outcomes of the students' Japanese language learning improved and whether the experimental Japanese language learning curriculum changed. This paper explores the gaps in the back-to-school process and discusses appropriate responses to gain knowledge and theoretical support to further investigate effective strategies in Japanese education.

This paper explores the gaps and deficiencies in students' self-learning abilities by referring to the survey of students' self-learning abilities in Suja's book, Current Situation, Problems, and Improving Students' Self-learning Abilities: An Academic Study from a Learning Perspective. In addition, students in the experimental and control classes were tested to see if their performance

improved after the implementation of the flipped class system.

Table 3 Details of the study design dimensions

Category I Indicators	Category II Indicators	Category 3 Indicators	Total
Autonomous learning objectives	Knowledge objectives	Accurate knowledge acquisition	3
		General knowledge understanding	2
	Situational objective	Type of selection - Situational	4
		Types of Migration - Context	5
Select learning content	Knowledge selection	Selective knowledge	6
		Selective non-explicit knowledge	2
	Application of knowledge	Application selection - mobility	2
		Application of selection - practicality	3
Regulate the learning process	Time regulation	Timetable	4
		Time management	2
	Means of regulation	Means management	4

The questionnaire consisted of 38 sections and the results were calculated using the self-assessment scale on the left side of the five components. All five categories were "not at all consistent," "not at all consistent," "not sure," "mostly consistent," and "completely consistent," with results ranging from one to five. " and "completely consistent", with results ranging from one to five.78 Students chose the proportion of each dimension in the classroom to accurately reflect students' attitudes towards self-study and their ability to learn on their own. To facilitate access to the questionnaire, students selected the correct option based on their actual learning situation. The questionnaire was written in comprehensible language, so the willingness of students to complete the questionnaire together improved its quality and had a positive impact.

4. Analysis of the effectiveness of Japanese language learning based on the Canvas web-based learning management system

The students had poor academic performance and poor cognitive ability, and they started learning Japanese from chicken, chicken and the most basic pronunciation. Most students find it difficult to take in a large number of words

in a short period. For example, they have just experienced mistakes in college entrance exams due to various external trust factors and academic trust factors that tend to disrupt and consume time and energy. This phenomenon is common among students. Many students believe that the lack of a language environment makes learning Japanese difficult and tends to create a psychological learning barrier. In most cases, they say, "If you can understand, you are afraid to speak, and if you don't understand, you don't understand." Therefore, students need to overcome this psychological uncertainty to overcome learning barriers and easy distractions. Traditional teaching methods are unique in teaching. The teacher mainly discusses the material in the classroom. The teacher is the communicator, the class leader, and the absolute authority. Students do not feel any different in the classroom than they did in high school. They sit passively in the classroom and learn knowledge. They often read many words and texts. Students rarely have the opportunity to show initiative. Without clear goals, they quickly lose interest in learning and learning objectives. Although most students listen attentively to their teachers, they find it difficult to fully develop their listening, acting, reading, writing, and translation skills, especially in listening and speaking. Traditional teaching methods also limit the amount of time available to learn Japanese. When students go home from school, it is difficult for them to write their textbooks. After class, they lack motivation and interest, making it difficult for them to study independently. Learning the five Japanese skills of learning, listening, speaking, reading, writing and translating is a very important part of the process. It is difficult to meet the needs of students compared to teachers who write and draw on the blackboard. Teachers need to innovate their teaching processes and practices to accommodate the growing number of students in the information society, to enhance students' interest in learning Japanese, and to improve teaching efficiency.

The total number of respondents was 78, of which 13 were boys, accounting for 16.7% of all respondents. the percentage of respondents aged 65 was 83.3%. There were 41 students (52.6%) in the experimental class and 37 students (47.4%) in the control class. 18.7% of the respondents were under 6 years old, 19.6% were under 27 years old, 18.8% were under 3 years old, and 19.8% were over 42 years old.

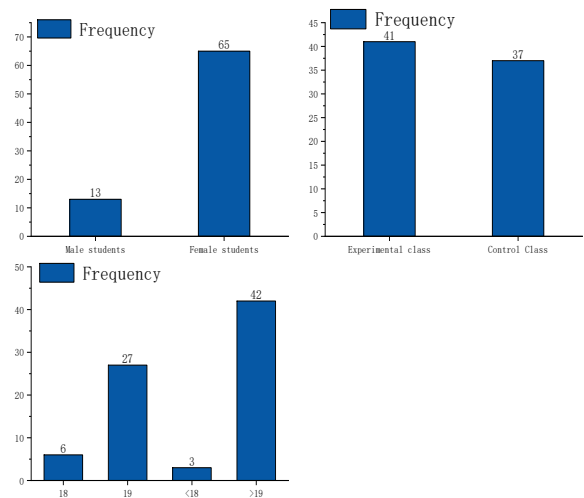


Figure 3 Basic weight of survey respondents

Table 7 shows the differences between the four measures, means and standard deviations for each element of the initial and reference measures. The higher the score, the higher the level of the course. The table shows that the experimental and control classes have slightly higher indicators of autonomy of learning goals than the other indicators, which indicates that students in both classes have a clear overall understanding of learning goals, i.e., the ability to define learning goals. The experimental class could not improve the Canvas online course compared to the control class. In Table 2, the means of test 3.50 and 3.49 for the four sites are as follows: the means of the experimental and control groups were almost identical, and there was no difference in study skills between the experimental and control groups. The atmosphere in the classroom was very active. The problems students faced while watching the movie before the class allowed them to prepare in advance. They asked questions in class, discussed and interacted with group members, and learned from each other. Students are more dependent on the teacher than in the traditional learning model, allowing them to ask questions rather than the fear of the teacher. Learning a language requires students to speak boldly and confidently, rather than becoming a silent foreign language. A lively classroom can motivate students to engage in conversation without fear of error or failure.

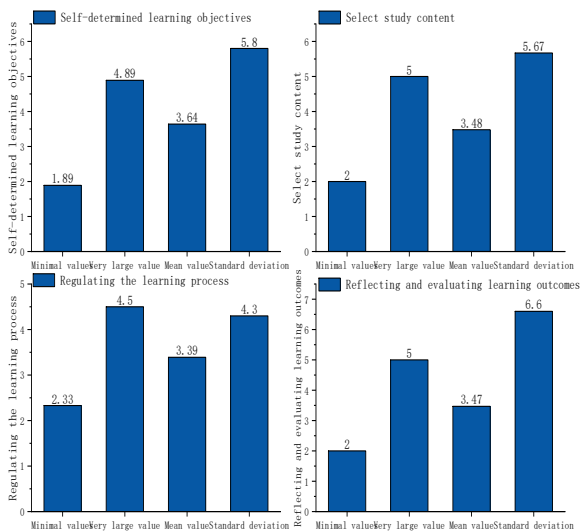


Figure 4 Statistical Results Analysis - Experimental Class

According to the test results, Canvas Online Learning and Flipped Classroom Flipped Learning significantly improved the students' test results. For review and evaluation, Table 6 presents the overall profile and differences between the control and the control groups. The mean for the experimental group was 20.83 and the control group was 20.00, but the differences were minimal. The standard deviation was 3.94 for the experimental group and 2.90 for the control group. This indicates that the data distribution for the experimental group was more spread out than the control group. The mean values for the experimental and control groups were similar. Independent T-testing indicated a p-value of 0.30, which is greater than 0.05. This means that we cannot reject the null hypothesis, which is that there is no significant difference between the two groups. In the reflective assessment, the study group was much larger than the control group. This means that the study group engaged in more reflective activities. An experimental Japanese course and a control course were tested using the same test materials and different teaching methods after the semester lab, Canvas e-learning, and classroom review. Based on the difference between the means of the two samples, i.e., the UN t-test consisting of two data sets, this paper analyzes the results of the last two study categories "Japanese Baseline". The results showed that SIG=0.07 (not significantly different from 0.05, but significantly different). This is because the results of the experimental group (M=74.34, SD=13.60) were much higher than the results of the control group (M=68.90, SD=12.73).

It is worth noting that the Canvas e-learning model and the classroom recovery model have proven their advantages. The experimental classes demonstrated excellent learning outcomes and showed that Canvas e-learning and flipped classroom learning played a positive

role in facilitating the learning process, changing students' attitudes and teaching methods, and improving the quality and efficiency of classroom instruction. After the semester-long trial, students' learning efficiency improved significantly. the Canvas online learning and assessment space played a positive role in facilitating Japanese students' learning. Compared to traditional learning, this new approach to learning is often very new and unique to students. Most students found learning useful. Except for a few who are not used to this new way of learning, most of them want to use it because they believe that their ability to learn on their own, to plan their studies, to discipline themselves, etc. has improved to a greater or lesser extent. This is mainly reflected in the student's interest in learning, participation, reflection and synthesis after class, as well as in the use of the material.

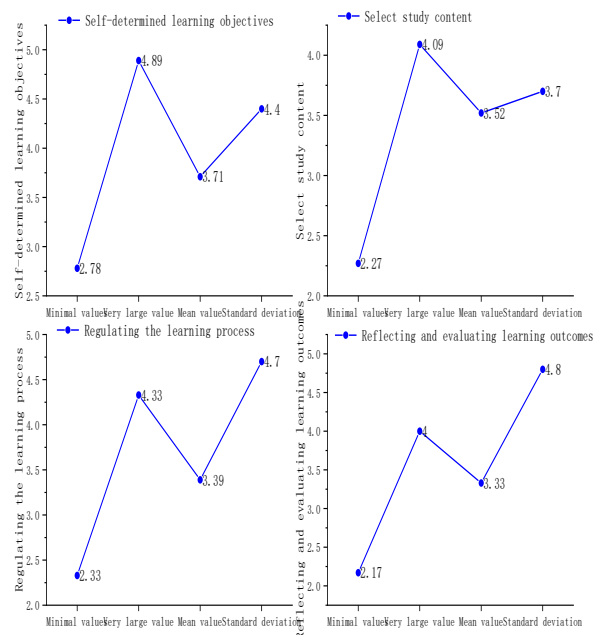


Figure 5 Analysis of Statistical Results - Control Class

Based on the first four dimensions, the total results for each dimension and the sum of each dimension should be calculated in the pretest using the independent samples t-test. The teacher-student relationship plays a central role in teaching and learning. If students resist their teachers, they are more likely to resist the lessons they teach. What about teacher-student relationships, learning methods, strategies and approaches? In traditional teaching, the teacher always stands on a high platform, which can easily make students feel too tall to ask questions. However, Canvas' online learning and flipped classroom requires the teacher to leave the platform and switch between students, which can reduce the teacher-student relationship, reduce distance, reduce the achievement gap, and give students a sense of intimacy. In the flipped Canvas network of classroom learning and learning spaces, students shift from passively receiving past knowledge to actively discovering and learning. Students

can view online learning resources after class. Students can control when, where, how and to what extent they learn. Students can also use the Internet to help partners or teachers access new information they do not understand. the Canvas online learning and back-to-school model provide students with maximum freedom in a relaxed Japanese learning environment.

4.1. Considerations from a self-directed learning perspective

The learning objectives designed to measure individual development are primarily intellectual and situational. These two dimensions also include implicit data acquisition, structural data acquisition, situational selection, and situational choice. Table 4 shows the general conditions and differences between the test and reference levels. The mean value was 32.76 for the study group and 33.40 for the control group, which was higher than the mean value for the study group. The standard deviations for the control group were 5.29 and 3.98, respectively, which were higher than those for the control group. independent tests of the T-sample showed that Sig=0.55>0.05. Thus, the experimental and control class students were much higher than the control class students in the pretest, and the control class students were much higher than the control class students.

Table 4 Perspective consideration of the differences in learning goals between the experimental process and the general group

	Class	Statistic al N value	Mea n valu e	standard deviatio n
Objective determination	Experimental group	63	29.63	4.63
	Control group	54	28.63	3.81
T-value analysis	Variance equal		.11	
	Variance not equal		.63	

The school has limited network equipment and lacks technical support to monitor student learning. In the Canvas-style e-learning model and flipped classroom, online testing is an important part of the student learning process. Students have long been accustomed to passive learning and homework. Teachers do not know what students are doing at home. This new way of learning also requires teachers to keep track of their students' online learning. If they are not able to stay in school for long periods, it is difficult to ensure that students remain enthusiastic about learning. It's easy to get lazy and not know how to organize learning, so you can't guarantee that there will be questions in class or that interaction will begin in class. As time builds up, students are unable to complete their learning tasks and face a vicious cycle of growth and knowledge.

In practice, the authors note that some group members and some students trust other members with low active

participation. Throughout the classroom, find that students' participation in the classroom varies. Some students do not want to participate in group discussions because they are lazy or introverted. They are used to listening to others' opinions. Over time, they became dependent on their peers. Instead of actively participating in the debates, they learn from other members afterwards, thus valuing the results. This is not only harmful to your research, but to others as well.

In addition, Canvas' online learning and assessment space places a high demand on the IT skills of the faculty. However, due to personal skills and lack of IT knowledge, making educational films was not perfect or great and remained unattractive. The video quality needs to be improved. In addition, manual design has a significant impact on the effective implementation of Canvas online learning and flipped classrooms. Think about how to design lessons that are appropriate for local students. In short, while Canvas online learning and ruined classrooms have been effective for a short period, it remains to be seen whether it will be used for learning Japanese in the long term. When implementing Canvas online learning and flipped classrooms, teachers should develop strategies to address teaching and learning issues.

4.2. Considerations for teachers' learning content selection

Educational content selection is primarily concerned with the selection and application of knowledge. Both programs will also create opportunities for the selection of structural information, the selection of implicit information, and the application and practical application of migration. Table 5 summarizes the overall situation and differences between the test and reference levels. The average test level was 38.27 and the mean test level was 38.68. The test results were slightly higher than the experimental results. The standard deviation was 6.39 for the experimental group and 4.04 for the control group. the experimental group was more like the control group. independent testing of the T-sample indicated that Sig=0.74>0.05. Therefore, students in the experimental and control classes had more options for information structure on the pretest than students in the experimental class.

Table 5 Perspective consideration of the differences in learning content during the experiment and the regular group

	Class	Statistic al N value	Mean value	standar d deviatio n
Objective determination	Experimental group	63	40.351	7.63
	Control group	54	39.631	6.31
T-value analysis	Variance equal		0.63	
	Variance unequal		0.85	

The Canvas learning phase is relatively easy to

understand and manage. However, unlike natural learning methods, this is a practical part. To learn a foreign language, you need to open your mouth and improve your silly foreign language habits. Before the class, students must practice a lot of self-study in the five areas of speaking and oral expression: listening, speaking, reading, writing, and translating. This promotes understanding, application and adoption of the content. Therefore, learning planning must begin with a philosophy of instruction, learning objectives, curriculum design, levels and learning activities, and adapt a specific and systematic set of learning materials for widespread use in this area.

The teacher must explain the purpose of learning. When defining learning objectives, it is usually necessary to clearly state how the objectives will be assessed. Training objectives should be defined based on the educational content. Learning objectives should be as detailed as possible to make them more effective. For example, considering the grammar score of the module, students should find an appropriate grammar explanation based on the assessment test, which they can use to create sentences and extend them to short points.

4.3. Dimensional analysis of the learning process

The main dimensions that regulate the learning process are time regulation, resource regulation, and volitional regulation. These three domains also include planning, time management, resource selection, resource management, physical and mental barriers, and learning disabilities. Table 6 summarizes the overall situation and differences between the test and reference levels. The mean for the experimental group was 40.66 and the control group was 40.70. The control class was larger than the experimental class. The standard deviation was 5.21 for the experimental group and 5.65 for the control group. independent testing of the T-sample showed that Sig=0.97>0.05. Therefore, students in the experimental class were able to control the learning process in the pretest better than students in the control class. For more details, see Table 9.

Table 6 Consideration of the differences in the perspective of the regulation of the learning process during the experiment compared to the general group

	Class	Statistic N value	Mean value	standard deviation
Target Determination	Experimental group	63	44.362	4.38
	Control group	54	41.251	3.25
T-value analysis	Variance equal		1.36	
	Variance is not equal		2.10	

Students are no longer passively acquiring knowledge, learning online, and flipping Canvas courses. They are no longer passive in the classroom but are at the heart of the learning. Your enthusiasm is greatly increased. Students

should not have to absorb and assimilate information at an overall rate. For example, depending on your level of recognition on the Internet, there are also online platforms for learning and communicating between classes, classes and districts. Despite the many advantages of online platforms, it does not negate the personal interaction of teachers and students in traditional education. Watching instructional videos can solve the problem of slow learning due to differences among students, but this does not guarantee that every student will fully understand the data points of the instructional videos. In addition, after viewing the video and completing the course, students face challenges beyond understanding and questioning the learning objectives. For example, teacher-student interaction, student communication, and discussion create new situations, problems, approaches, and ideas. This requires teachers to have extensive experience in classroom organization to ensure student participation in classroom activities.

4.4. Summarizing Dimensional Analysis

Reflective measurement and assessment of school performance consist primarily of diagnostic, procedural, and outcome measures. These three items will be reviewed and evaluated. Table 7 shows the general status of the test levels and the comparison of the differences between the test levels. The mean value for the experimental group was 20.83 and for the control group 20.00. by independent samples t-test, Sig=0.30,0.05. Thus, in the pretest, the students in the experimental and control classes were significantly higher than those in the control class in terms of analysis and assessment of learning outcomes.

Table 7 Consideration of differences in the perspective of reflection and evaluation of learning in the experimental process and the general group

	Class	Statistic N value	Mean value	standard deviation
Objective determination	Experimental group	63	19.63	4.32
	Control group	54	17.78	6.35
T-value analysis	Variance equal		0.21	
	Variance is not equal		0.31	

5. Conclusion

5.1. The results of this research

The analysis of the test results and questionnaires showed that the students in the experimental class not only responded better to the post-test requirements but also showed positive attitudes towards the students in the control class in all aspects, rather than adopting e-learning and structure in the translation class. The findings were as follows: first, increased academic independence of the

students. Because teachers did not translate classroom data points based on Canvas' e-learning and classroom flipping requirements, students were required to watch the videos ahead of time, learn on their own, identify problems, and bring them to class for discussion and resolution. This helps students learn independently. Second, it improves student learning outcomes. Based on the results of the previous and post-tests, there was no significant difference between the mean of the experimental group (77.00) and the control group (78.00). The mean of the experimental class (73.34) was much higher than the mean of the control class (68.90). In the control class, students brought the questions into the classroom, discussed them with their group members, and found the answers together. At the end of the experiment, the results showed that students in the experimental class, who were used to teamwork and group learning, preferred to work with their classmates rather than study alone compared to the control group.

5.2. Shortcomings of this study

The number of courses was limited because the authors offered a small language course. In the Canvas e-learning experience and the opposite model in Japanese elementary schools, only 41 students were enrolled in a class with very few courses. The scope of technological services was narrow and limited. Therefore, in future studies of such teaching experiments, should increase the number of subjects accordingly and increase the trial period to make the experiments more objective and scientific and the proposed strategies more practical.

Due to the limitations of the authors' work, only flipped Japanese language learning was conducted in Canvas e-learning and flipped classroom teaching. Unfortunately, due to limited effort, many of the practical lessons could not be tested in a short period. In general, the topics tested were relatively simple and should have included some limitations. Unfortunately, the educational experiments were not conducted from different perspectives and were not tested and analyzed from different perspectives. Therefore, in the experimental study of Canvas e-learning, the range of topics should be extended and fully validated from different perspectives and directions. The method of statistical analysis after the questionnaire before and after the training experience was also relatively simple: statistical analysis was performed using only SPSS statistical software, without checking different methods. Future studies should deepen not only the amount of data but also the research to make it more scientific and complete.

5.3. Related Outlook

Although this study conducted some practical pedagogical tests on the application of Canvas in e-learning and

excluded Japanese language teaching, the scope and depth of practice and theory were far from adequate due to the limited ability and effort of the authors. Therefore, subsequent studies will test alternative approaches.

The experimental study showed that Canvas online learning and classroom flipping can improve students' ability to learn Japanese, improve Japanese teaching methods, and increase students' learning efficiency at both college and university levels.

National e-learning research on Canvas continues, and vice versa. Most of the research is a summary and reflection of Canvas e-learning and back-to-school theory, with little practical application research. Little research has been conducted on foreign languages, especially Japanese. The introduction of Canvas e-learning and disruptive classrooms has changed traditional learning styles. Although online Canvas learning models and classroom flipping seem much simpler, classroom preparation adds more than traditional teaching methods, so many teachers do not want to try online Canvas or classroom flipping. However, the authors argue that teaching practices must actively investigate different pedagogical approaches, be bold and innovative, challenge new technologies and models, and adapt to the information age and information-age students. This study aims to examine the application and research of the Canvas e-learning model and the flipped classroom learning model. These studies are still very vague, and the perspective analysis is not comprehensive. This will be the basis for future research.

References

- [1] M. Birkett, J. Melville,(2022) Reprint of Network Canvas: Key decisions in the design of an interviewer-assisted network data collection software suite. *Social Networks*. 20:202~203.
- [2] Manish S, Phymar S,(2022) Safety of COVID-19 vaccines in pregnancy: a Canadian National Vaccine Safety (CANVAS) network cohort study. *The Lancet Infectious Diseases*. 19:17~18.
- [3] Claudia H, Bernhard T,(2022) The infrastructure transition canvas: A tool for strategic urban infrastructure planning. *Nature-Based Solutions*. 63:31~32.
- [4] Taofeeq D. Moshood,(2022)Lean business model canvas and sustainable innovation business model based on the industrial synergy of microalgae cultivation. *Environmental Challenges*. 32:54~55.
- [5] Javier G S, Sergi S,(2022) Conceptualisation of the Port of the Future based on the Business Canvas Model: A case study of the Vision 2040 for Barcelona. *Case Studies on Transport Policy*.8:78~81.
- [6] Morgane M, Juan S,(2021) Mercury-free artisanal and small-scale gold mining: Proposing a community-business model canvas. *The Extractive Industries and Society*.4:55~56.
- [7] Rico A, Aminou A,(2022) An extended Canvas business model: A tool for sustainable technology transfer and adoption. *Technology in Society*.25:33~34.
- [8] Mirco M, Elisa R,(2021) Augmented Workforce Canvas: a management tool for guiding human-centric, value-

- driven human-technology integration in the industry. *Computers & Industrial Engineering*.14:33~36.
- [9] Priya P, Priya P,(2022)CANVAS- an international collaboration. [LDQUO]A Comparison of Non-Absorbable Sutures Versus Absorbable Sutures for Skin surgery[RDQUO]. *British Journal of Oral and Maxillofacial Surgery*.19:22~23.
- [10] Ibrahim Youssef Alyoussef,(2022) Acceptance of a flipped classroom to improve university students' learning: An empirical study on the TAM model and the unified theory of acceptance and use of technology (UTAUT), *Heliyon*,23:45~46.
- [11] Tufan A, Figen I.(2022) Impact of flipped classroom approach on undergraduate nursing student's critical thinking skills. *Journal of Professional Nursing*, 69:52~55.
- [12] Turki M A, Farrah D,(2022) Dataset on the relationships between flipped classroom approach, students' learning satisfaction and online learning anxiety in the context of Saudi Arabian higher education institutions. *Data in Brief*. 15:84~89.
- [13] Laura B, Robin K,(2022) Exploring flipped classrooms in undergraduate nursing and health science: A systematic review. 28:35~36.
- [14] Punithalingam Y, Yan C,(2022) University teachers' perceptions of readiness for flipped classroom pedagogy in undergraduate nursing education: A qualitative study. *Journal of Professional Nursing*. 25:89~91.
- [15] M. Barranquero-Herbosa,(2022) Effectiveness of flipped classroom in nursing education: A systematic review of systematic and integrative reviews. *International Journal of Nursing Studies*. 21:98~100.
- [16] Kimberly E, Jill R,(2022) Innovative use of a flipped-classroom approach to teaching fundamental nursing skills, *Teaching and Learning in Nursing*,13:55~56.
- [17] Eula M, Gayatri N,(2022) Exploring the lived experience of student nurses perspective of racism within education and clinical practice: Utilising the flipped classroom. *Nurse Education Today*.63:85~86.
- [18] Tiffany R, Shin,(2022) Evaluating the impact of a flipped classroom model based on the cognitive science of learning strategies in a pharmacotherapy course. *Currents in Pharmacy Teaching and Learning*.25:56~58.
- [19] Fatma B,(2022) Flatbread - A canvas for innovation: A review. *Applied Food Research*. 63:33~62.
- [20] Tomáš K, Jan B,(2022) Convolutional neural network exploiting pixel surroundings to reveal hidden features in artwork NIR reflectograms. *Journal of Cultural Heritage*. 4:98~101.
- [21] Leanna L,Petra G. Effectiveness of flipped classroom format in quantitative and non-quantitative business courses – A meta-analysis[J]. *The International Journal of Management Education*,2023,21(3).
- [22] Kittichai N. The Feasibility of an Innovative Gamified Flipped Classroom Application for University Students in EFL Context: An Account of Autonomous Learning[J]. *English Language Teaching*,2023,16(8).
- [23] Liu F. Application and Implementation of Flipped Classroom in College Chemistry Teaching under the OBE Concept[J]. *Frontiers in Educational Research*,2023,6(14).