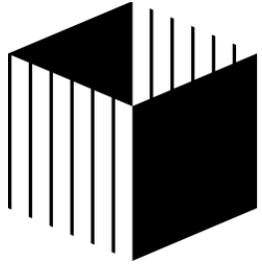# A Practice of Flipped Learning in Programming Education with Sakai

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kibaco

Standard e-Learning system (LMS) in Tokyo Metropolitan University
◦ Launched at Feb 26, 2015
◦ Based on Sakai 2.7.1

Integrated with some university-wide ICT systems for students and faculty members
◦ Average monthly active users: 5,500/month
◦ The total numbers of yearly login users: About 1,000,000

"kibaco" means "wooden box"

Outline of Flipped Classroom Practice

The target subject is "Practice of Information Literacy 2B"

- An elective and practical training subject in all faculties
- The target of the subject is to learn basic knowledge of computer science and programming and work on resolve problems of mathematical sciences.
- Some students who have never learned programming take this subject.

There are some problems to conduct the class.

- Need more time to practice programming in class
- Differences in knowledge and ability on programming among learners are quite intense.
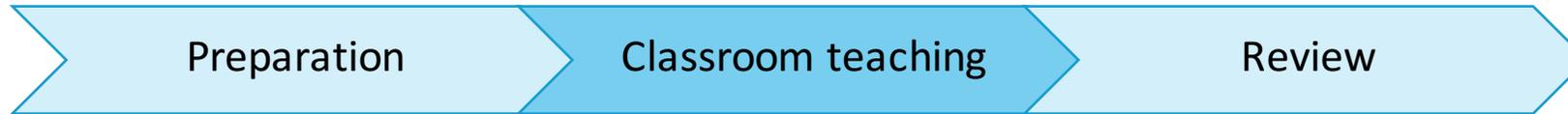
Kibaco has a streaming service using Mediasite® Video Cloud Platform.

- Works as a function of kibaco

Difference of Teaching Style

Traditional classroom

Preparation › Classroom teaching › Review

Lecture, Work   Review

Flipped classroom

Preparation › Classroom teaching › Review

Lecture   Work   Review

Teacher prepare lecture videos and assignments one week before.
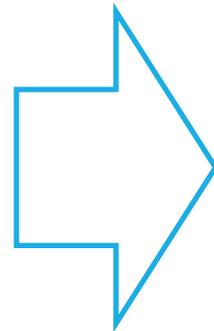
Make Flipped Classroom Effectively

Instruct students to work on the assignment after watching lecture videos one week before

- The content of the preparation needs to be reflected lecture in the classroom in order to maintain the motivation for the learner's preparation.

Learner

- See videos

- Submit assignment

Sakai

mediasite

LTI Tool → Video player

Assignment

Browsing Video from Sakai

Using Mediasite® Video Cloud as centrally manage video distribution
- Learners launch a video player through LTI from kibaco.
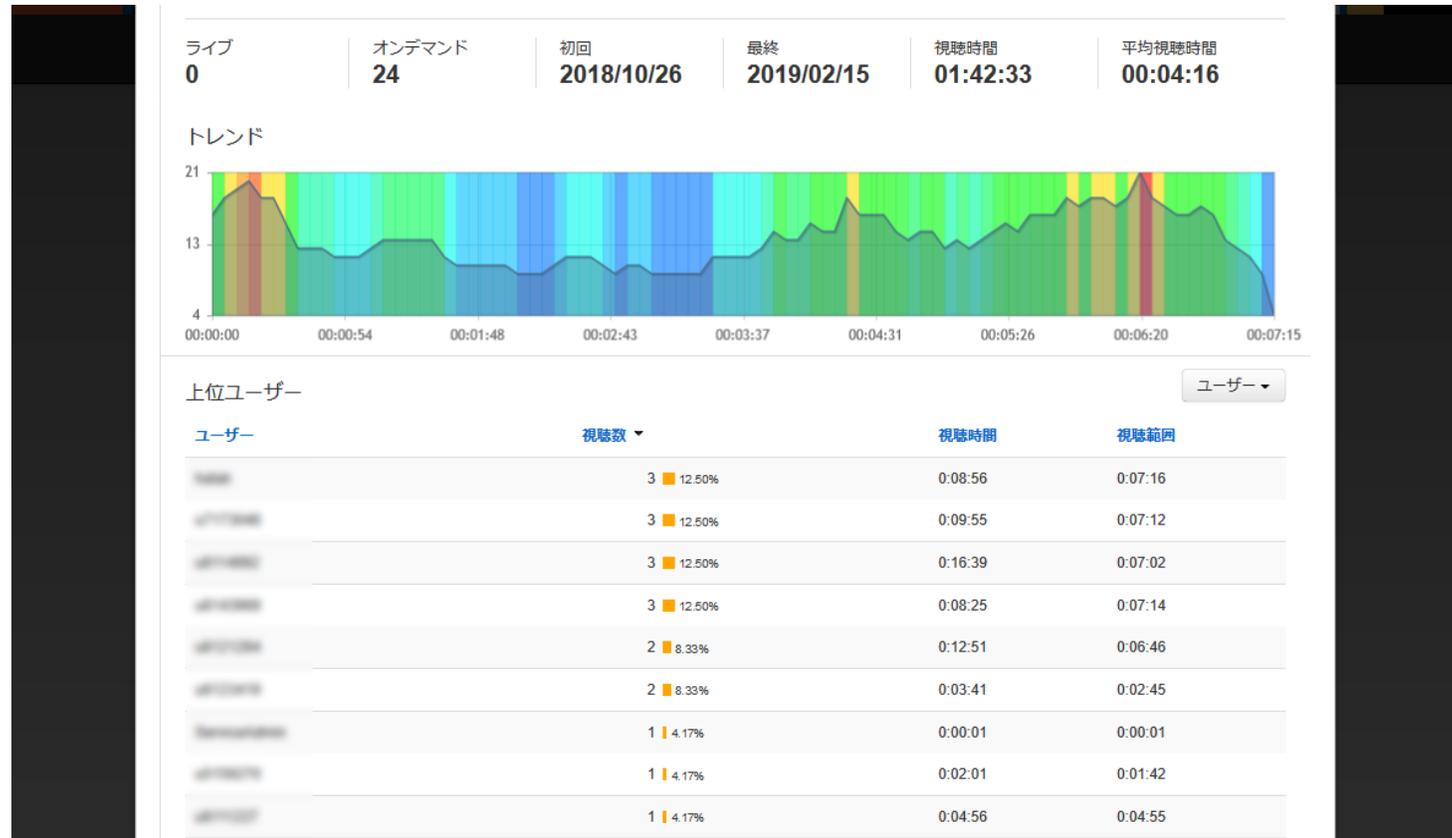
Analysis of Viewing History

Results

A Flipped classroom using Kibaco with Mediasite® supported individual learning and ensure sufficient times for learning.

- Learners especially beginner views the videos repeatedly.
- Especially, the videos that describe using software was seen again and again.

Video player has used as a partial function of kibaco.

- Users use video player without being conscious that these systems are separated.