

Supplement 3. Students' Post-course Feedback on Course Components of the Flipped Class Design

(A) Online lecture

Survey question	No. (%)
How long do you think is appropriate for the online lecture?	
15 Minutes or less	59 (60.8)
30 Minutes or less	34 (35.1)
1 Hour or less	2 (2.1)
It doesn't matter	2 (2.1)
When did you watch the online lecture?	
Right before the class (e.g., lunch break)	71 (74.0)
The day before the class	25 (26.0)
The weekend before the class	0
A weekday before the class	0
As soon as the video was released	0
Which device did you mainly use to watch the online lecture?	
Smartphone	55 (56.7)
Computer (e.g., laptop, PC)	32 (33.0)
Tablet (e.g., GalaxyTab, iPad)	10 (10.3)
Large screen (e.g., TV, projection screen)	0
Others	0

(B) Pretest

Survey question	Mean±standard deviation	Response ^{a)} (%)		
		1-2	3	4-5
Pretests motivated me to study prior to the class.	3.20±1.30	28 (29.2)	22 (22.9)	46 (47.9)
I prepared for the pretests.	3.61±1.04	13 (13.5)	23 (24.0)	60 (62.5)
Pretests were helpful for solving the group discussion cases.	2.46±1.11	54 (56.3)	22 (22.9)	20 (20.8)
I did not cheat on the pretests.	3.78±1.22	19 (19.8)	17 (17.7)	60 (62.5)
The overall difficulty of pretests was ^{b)}	4.30±0.65	0	10 (10.6)	84 (89.4)

^{a)}Measured on a 5-point Likert scale (1, strongly disagree; 5, strongly agree). ^{b)}Measured on a 5-point Likert scale (1, very easy; 5, very difficult).

(C) Feedback^{a)}

Survey question	Mean±standard deviation	Response ^{b)} (%)		
		1-2	3	4-5
Pretest reports were helpful to review what I learned.	3.20±1.07	26 (27.1)	28 (29.2)	42 (43.8)
Midterm report was helpful to review what I learned.	3.61±0.97	12 (12.5)	25 (26.0)	59 (61.5)
Group discussion report feedback was helpful to review what was learned in each class.	3.42±1.05	20 (20.8)	25 (26.0)	51 (53.1)

^{a)}Grade reports for each pretest and midterm exam, solutions or comments for group discussion reports.

^{b)}Measured on a 5-point Likert scale (1, strongly disagree; 5, strongly agree).

(D) Tutor

Survey question	Mean±standard deviation	Response ^{a)} (%)		
		1-2	3	4-5
The tutor's explanations were helpful for making connections between the pre-class lectures and each class's key points.	3.78±0.96	11 (11.5)	18 (18.8)	67 (69.8)
The tutor encouraged students to actively participate in in-class activities (e.g., group discussions, questions, presentations).	4.08±0.82	4 (4.2)	13 (13.5)	79 (82.3)
The tutor answered students' questions well.	4.25±0.81	4 (4.2)	10 (10.4)	82 (85.4)
The tutor's wrap-up session (group presentation) was helpful for understanding what was learned in each class.	3.97±0.88	6 (6.25)	17 (17.7)	73 (76.0)

^{a)}Measured on a 5-point Likert scale (1, strongly disagree; 5, strongly agree).