

MORE ACTIVE ONLINE? INCREASING CLASS PARTICIPATION BY ALTERNATING FACE-TO-FACE AND ONLINE LEARNING

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- 15 years teaching at the University of Tsukuba, Japan
- English programs - multicultural classrooms
- Major interests
 - Engineering education; multicultural instruction
 - Human-computer interaction
 - Global software engineering

BACKGROUND

- **Online vs. face-to-face learning**
 - Advantages and disadvantages for both modalities
- **Active learning**
 - Actively involving the learners in the teaching process
 - Group work, discussions, problem solving, role playing, etc.
- **Multicultural environments**
 - Language barriers; cultural differences
- Engaging multicultural groups in active learning is challenging
- Our work: example of computer ethics course

GOALS & MEANS

❖ Goals

- Increase active participation of students in class
- Find out which class modality brings most active participation

❖ Means

- Empirical observations
- Student feedback
- Questionnaire

COURSE DESCRIPTION

- “*Topics in Computer Ethics*”
- University of Tsukuba, Japan
- Master’s course in Computer Science

- Multicultural group; spring 2025 (total of 87 participants):
 - 41 Japanese students
 - 46 international students (19 countries)



COURSE DESCRIPTION (2)

○ “*Topics in Computer Ethics*”

○ **Topics**

- *Algorithmic fairness and big data; privacy and surveillance*
- *Autonomous weapons; autonomous cars*
- *Intellectual property; healthcare in the digital age*
- *Cyberspace, social media and internet regulation, etc.*

○ **Attendance**

- Not 100% mandatory

○ **Evaluation**

- Based on final report
- Class participation taken into consideration



CLASS FLOW

- Beginning: “warm-up” discussion, followed by new-topic brief discussion
- **New concepts (“lecture”)**
&
- **Class activities**
 - Discussions - plenary and in groups
 - Group tasks
- Not strictly lectures, but combining introduction of new concepts with discussions with/among students
- Most time spent in each session: **discussions**
 - Usually, very animated



CLASS DISCUSSIONS & ACTIVITIES

- Seen from various points of view
 - Ethics: utilitarian, rights, justice, virtue, common good
- Examples
 - *Continuous surveillance*
 - *Robots as educators*
 - *Social media and personal beliefs*
 - *Self-driving cars*
 - *Emotional attachment to AI companions*
 - *Robots – rights and moral status*
 - *Generative AI use – improved life or not*

INTRODUCING “OCCASIONAL” ONLINE CLASSES

- Course original format: face-to-face
- Two lectures held online (5th week and 10th week)
- Initial reason: student's request
(due to unavoidable absence in class)
- **5th lecture:** held in the classroom, but live streamed on MSTeams
- Observations
 - proved useful for more “busy” students
 - 15 online participants
 - → impression that in person presence is not necessarily beneficial

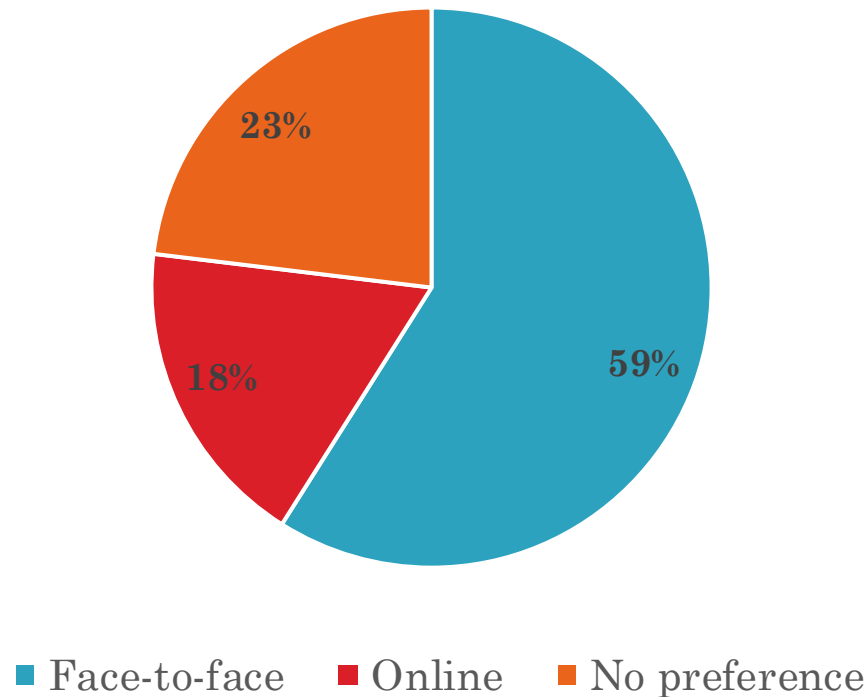
INTRODUCING OCCASIONAL ONLINE CLASSES

- **10th lecture:** held online, on MSTeams
- Observations
 - proved useful for lecturer (attending conference abroad)
 - 44 participants (out of total number of 87 students)
 - group discussions: in MSTeams' "Rooms" (9 rooms)
 - much less animated discussions!

→ online classes may improve attendance, *but*
level of participation is more difficult to improve

STUDENTS' CLASS FORMAT PREFERENCE (QUESTIONNAIRE - 40 RESPONDENTS)

Class format preference



FACE-TO-FACE - STUDENTS' COMMENTS

"I think face-to-face classes are more effective because I feel more involved in the discussion."

"I believe face-to-face system will be better to truly learn and understand the topics."

"I think face-to-face is better for these kinds of discussion-heavy classes."

"It seems the discussion gets more constructive and interesting when in-person classes."

"face to face is more effective to learn and discuss"

ONLINE - STUDENTS' COMMENTS

"I would prefer online if I lived far from school"

"I prefer online classes given that I'm not in Japan right now"

"It is more difficult speaking English online than face-to-face."

"Online classes are hard"

FACE-TO-FACE VS ONLINE - STUDENTS' COMMENTS

“If it is just for the purpose of transferring knowledge, on-demand is easier to review, but if there are exercises involved, I think face-to-face is easier to understand and to consult with.”

“online would bring more attendance at first but less engagement”

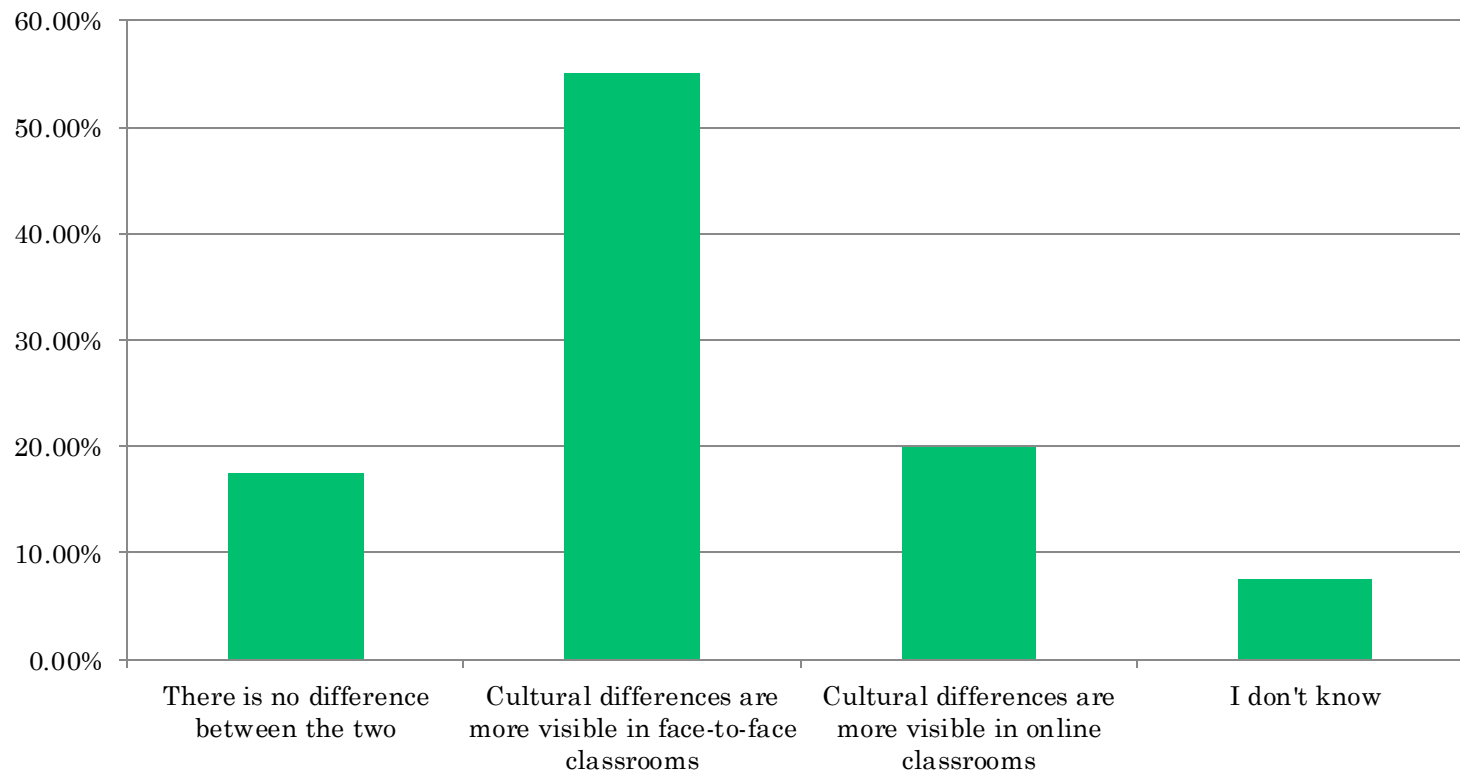
- Surprising comment (or not?!):

Increasing attendance is the first and most essential step. After that, we'll encourage more of them to participate in our class. [...] Lectures are structured in such a way that once students attend, their level of participation naturally increases.

And the simplest and most effective way to boost attendance would be to offer the class online.

STUDENTS' PERCEPTIONS OF CULTURAL DIFFERENCES (QUESTIONNAIRE - 40 RESPONDENTS)

In terms of cultural differences, how do online classes compare with face-to-face classes?



DISCUSSION

- Adding two online classes brought a change in pace
- Usefulness of online availability: not disputed, in terms of attendance
- ❖ **Question:** *Can participation be improved through adding online classes?*
- “More active online”: not proved
- However, this may depend on culture of class participants
 - Japanese students tend to be more reserved in large groups
→ Online classes may alleviate this issue
 - More than 50% of questionnaire respondents: “cultural differences are more visible in face-to-face classrooms”

CONCLUSIONS

- Face-to-face classes facilitate **high level of student engagement**
- However, **occasional online classes** may introduce **advantages**, like improved attendance
- Online classes *may* or *may not* bring an increased level of participation
 - May be **culturally-dependent**
- More data is needed

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