Points to be noted when using this lecture material:

This lecture material includes images etc., used by the University of Tokyo with the permission from third parties, and images, etc., provided under respective licenses. Please follow the rules determined by the respective rights-holders when using the individual images.

Copyrighted works owned by the faculty members of the University of Tokyo may only be reused for non-profit or educational purposes. Please credit the following when using this material:

UTokyo Online Education: UTokyo Global FFDP 2022 Gabriel Hervas





Future Faculty Development Program

DAY 2 Teaching & (active) Learning: Methods, strategies, techniques

Dr. Gabriel Hervas (lecturer) Ms. Airi Kawakami (support)

Center for Research and Development of Higher Education

gabriel@he.u-tokyo.ac.jp

The University of Tokyo

This course is recorded to be published online as review and teaching material, and to be used for research purposes with the aim of improving the course itself.

Therefore, we would like to ask for your cooperation and consent to:

Publish and use the videos and photos taken (may include identifiable faces).

Allow the Center for Research and Development of Higher Education and the University of Tokyo to use these materials on official media (websites, leaflets, research presentations, etc.) for the purposes early stated and for publicity and promotion of academic activities.









Teaching Development in Higher Education in English/ UTokyo Global Future Faculty Development Program (UTokyo Global FFDP)

Suggestions & class policies

Please, reach us out if there is a circumstance that you feel will affect your **participation**, if you find yourself **overwhelmed**, if we can do **anything** to make this course more **accessible and inclusive**, etc. Do not hesitate. Let's talk!





We shall address each other using the **name** and gender **pronouns** they told us. Stay **positive** and keen to learn. Show interest in what others say and listen **actively**. Respectfully "**interrupt**" the facilitators as much as necessary. **Share** thoughts and ideas actively. Be **respectful**, **constructive**, and **speak** without reserve. In online communication, overreactions are welcome.

ffdp UTokyo Global FFDP

FOLLOWING THE PREVIOUS SESSION...



Synthesis

- Discussion about the science of learning, meanings, and pedagogical implications.
- You also reflected about groupwork, made a synthesis of your learning and expectations and watched today's video.





Synthesis

Learning. Most-referred:

- Value of **unexpected rewards**, idea of **scaffolding**, **challenging tasks** (desirable level of difficulty)
- Connecting with previous knowledge, expertise reversal effect, value of peer-modeling, approach of the class/tasks themselves as learning material

To learn more about. Most-referred:

- Specific practical/"simple" ideas (in general) (peer-modeling, self-monitoring, use for hard-sciences, ...)
 - Applicability in the following sessions
 - Follow-up/feedforward & feedback useful?

Expectations:

- Ideas groupwork
- Mixing techniques
- Evaluation





TODAY



Today





- Following the previous session...
- Student-centered & active learning
- Groupwork
- Methods, strategies, techniques for active learning
- Following next week

Main activities

Discussion about learner-directed strategies, sharing ideas about different methods, strategies and techniques., learning by doing (peer-instruction, practice of jigsaw technique)

UTokyo FFC D GLOBAL

Future Faculty Development Program



This session: Under its skin and why

Time to learn, think and discuss about methods, strategies and techniques that promote active learning.



At a fundamental level & just some of them!

Why is it important?

It leads to specific practical ideas for course and class design (days 4 to 7)

Responds to what we learnt about learning.

Doing by doing is not enough, so we need to THINK about the why's and GO THROUGH the experience.



Goals (of the session)

- To promote scholarly pedagogical knowledge/skills and educational reflection regarding T-L methods/strategies/techniques for active learning, their implementation, and groupwork.
- To generate experiential learning opportunities to learn about T-L techniques.
- To stimulate reflection and ownership of educational lexicon.







At the end (including feedforward), participants would be able to (at a fundamental level):



- Connect how students learn with teaching and learning methods, strategies and techniques to promote active learning.
- Use and scholarly argue in relation to groupwork and the appropriateness of different T-L methods, strategies and techniques to promote active learning.
- Take ownership and **critically argue** regarding different educational **notions**.



LEARNER-CENTERED & ACTIVE LEARNING



What does the notion "student-/learner-centered" mean to you?

student- (or learner-) centered methods should focus on the (pre)knowledge of students, their abilities, and their own efforts to participate in the class.

"student-centered" means adapting the learning material and methods to the needs and skills of the student.

Supplying adequate resources as per requested by students when they encounter trouble.

trying to engage the learner, find out what they know and what they want to know, instead of just flipping through slides without accounting for individual students.

"Student-centered" means the lecture which delivers based on the understanding and motivation of learners. Lecturers must listen and understand the objectives and ideas of the learners and advise, build the engagement toward their concepts and application.

Student-centered learning means the shift of focus of instruction from teachers to students. Students will have more autonomy, independence and be more active in class. In student-centered learning classroom, student will choose what to learn and how to approach the learning. Teachers are only the facilitators of the classroom.

Learner-Centered > Emphasis on both students and instructor

student-centered learning means that the class is designed to help student get the knowledge. It should flexibly fit to the prior knowledge of students and their background.

approach, the students have more decisions power, and they are more comfortable learning. In this student needs and their progress through the course needs to be monitored carefully.

guiding students to learn, rather than traditional teachers giving lectures and students taking notes.

"student-centered" means teachers will educate students or help students to gain some skills from the student's point of view

shifting the role of educators from instructors to facilitators where they are not the only source of knowledge. It is brought into reality by using more transformative teaching approaches in the classroom to support learning processes and the learning environment. This kind of learning considers that individuals construct knowledge or worldview through experience while acknowledging that this new knowledge/worldview is constructed in relationship to others in the learning situation.

student-centered: a learning process that can be personalized depending upon the requirements suggested by the students regarding the content and process of learning.

"student-centered learning" as a collection of methods which aim at developing one's autonomy in the process of learning.

Student-centered: Teaching based on and refer to students' need.

Students need to pay more attention in their roles involved in the process of learning.

"Learner-centered" means that students are independent and responsible for their learning. Therefore, with this concept, students are encouraged to make their own decision in terms of goal setting, content, method, and evaluation.

To give ownership to the students for their learning... meaning, the students are involved in their learning journey... the teacher facilitates this journey but the students take it upon themselves to explore the subject matter at hand. Such classrooms are not meant for teachers to lecture students, but rather for discussions amongst students that the teacher can formatively assess... a good way to get this learner-centered classroom is by using flipped classrooms. "student-centered" and "active learning" refer to course delivery techniques where by the role of the instructor becomes less, rather the students engage actively in the learning by group work, sharing experiences, interacting in the classes, and even taking chapters to present and discuss in the class.

"student-centered" means that students participate in the class interactively in a pro-active manner, i.e. not in a passive manner that the lecturer teaches non-interactively.



What does the notion "active learning" suggest you?

Active learning would for me relate to active engagement of students into the class, through Q&A, presentations, group discussions.

"active-learning" would be perhaps a synonym for "learning by doing", interactive lessons, and group/team activities.

Supplying adequate resources as per requested by students when they encounter trouble.

trying to engage the learner, find out what they know and what they want to know, instead of just flipping through slides without accounting for individual students.

"Active learning" means the lecture that have the environment of encouraging learners to solve the problem based on their interests. The responsibility of learning is done by the learners. The lecturers act as facilitators who advises the learners to their objectives, instead of provides complete lesson to the learners.

active learning assumes active participation of the students in the class, not only listening to the lecture. It may be solving problems, discussion, quizzes etc.

guiding students to learn, rather than traditional teachers giving lectures and students taking notes.

"active learning" means students have a passion and desire to gain the knowledge or skills, they are willing to learn something with teachers or by themselves.

Active learning is the best way to activate students' brains. It helps students to think on their own. Comparing to the way just passively listening to the lecture, it is scientifically proven to work better, based upon recent studies.

Active learning is about active engagement of learners in the experiencial learning with an assumption (constructivist only) that knowledge is created through experience. This kind of learning experience can be organized by engaging learners in real-world task performance e.g. real-world problem solving.

active learning: the learning session that includes interactions, activities and discussions apart from regular lecture sessions.

"active learning", any method of learning in which the person is not exclusively listening.

Active learning: When students find out what they need to explore what they are interested in, then they start active learning.

Students need to pay more attention in their roles involved in the process of learning.

"Active learning" relies on "learner-centered", and thus students participate in the class autonomously discovering problems and finding solutions through discussions, presentations, peer-learning, etc. Active learning to me is that the students are seeking the knowledge and skills needed to reach their learning goals... not waiting on the teacher to have decided exactly what scope of learning material they're going to use... but the teacher accommodates for what the students know and the direction that they might be interested in or need.. [just as this survey is helping shape this course]

"active learning" refer to course delivery techniques where by the role of the instructor becomes less, rather the students engage actively in the learning by group work, sharing experiences, interacting in the classes, and even taking chapters to present and discuss in the class.

"Active learning" is almost the same meaning (that student-centered) but this term denotes more engagements of the students that places the students at the center of the lecturer's view.



Teacher facilitator/guide

+ autonomy of students + **active** students + **involvement** of students in learning & decision-making (ownership)

VS

Teacher doing, modeling, demonstrating, "driving"

Designed to support learning & learner

Adjust teaching to students' previous learning, needs, etc., & more monitoring of learning.

But

Only for a learner-centered approach? Nothing **in-between** the spectrum: lecture – learner-centered?



Students responsible of choosing what & how to learn, goal setting, contents, methods, evaluation.

Attention

UTokyo Global FFDP

Involving in decision-making, self-regulation, etc. But teachers keep taking decisions & responsibility

Active learning? You already knew it

- Instructional activities involving students in "doing & thinking about what they are doing" (*metacognition*) (Bonwell & Eison, 1991; p. 3)
- To engage "students in the process of learning through activities and/or discussion in class, as opposed to passively listening to an expert. It emphasizes higher order thinking and often involves group work" (Freeman et al., 2014; pp. 8413–8414).



However

There is "a lack of consistent and clear operational definitions for active learning" (Martella et al., 2021) and it is mainly used as an umbrella term.



See references at the end

- Active engagement/participation. Not just listening.
- Learning by **doing** & experiential learning.

- Through:
 (Group/peer) discussions, solving problems, Q&A, presentations
 Interactive lessons
- Lecturer as facilitator, advisor / Relies on learner centered.
- Students seeking their own goals/interests, having passion to learn.
- Helping students to think on their own.





Active learning? What research tells us

"examination scores improved by about 6% in active learning sections, ... students in classes with traditional lecturing were 1.5 times more likely to fail than were students in classes with active learning" (Freeman et al., 2014)



Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences of the United States of America*, *111*(23), 8410–8415. <u>https://doi.org/10.1073/pnas.1319030111</u>



Want to know more?

See references at the end



Recent **meta-analysis & systematic reviews** about methods, strategies and techniques that involve AL:

"...the primary contributing factor to the flipped classroom effect is the opportunity it provides for structured, active learning and problem-solving." "Positive moderate effect of flipped classrooms on student performance." (Strelan et al., 2020)

"promising pedagogical approach when appropriately designed" (van Alten, 2019; about FC)

"Small effect of flipped classrooms on learning outcomes" (van Alten et al., 2019)

"Significant medium **effect** size in favor of **gamification** over learning without gamification" (Bai et al., 2020)

"flipped learning is superior to lecture-based learning for **fostering** a range of academic, intra-/interpersonal, and satisfaction-related outcomes" (Bredow et al., 2021)



Two pedagogical doubts

- ✓Regardless of the content, using learner-directed strategies is better than using teacher-directed strategies
- ✓The sooner we use learner-directed strategies, the better for our students' learning
- <u>https://www.menti.com/7w7o4b5fdk</u>

Observers: free to choose one group to observe

- (8 min)Discuss it in groups & vote again (individually): <u>https://www.menti.com/txuvq3zmv4</u>





Changes? Why?

Room 1 Room 2 Room 3 Room 4







Two pedagogical doubts

LEARNING is the GOAL

ACTIVE LEARNING can be part of more or less learnerdirected designs (e.g., direct instruction) INTERACTIVE LESSON. Not passive

WHY?

A learner-directed approach could be problematic for some **students and contents** and at some learning **stages** (specially when we begin to learn something)



"Educational **context** plays a significant role" (discipline and region); in some contexts, the "benefits of flipped learning may be much more **modest**" (Bredow et al., 2021)

See reference at the end



So...

How active and learner-directed in our design depends on:

- Pedagogical design and reasoning
- Attention to context (discipline, culture, ...)
- Attention to students and their learning moment

Methods, strategies and techniques are means (not goals by themselves)

Aspects to consider when deciding:

- How and what type of learning do they promote? (Day 1)
- Are they (how much) student-centered/directed? (Day 1)
- Are they aligned with our goals, learning outcomes, and assessment? (Days 3 & 4)

UTokyo Global FFDP

• Do they fit our context, contents, students...? (your future you)



PREVIOUS LEARNING



Video review: T&L methods, strategies, and techniques

- 1. Non-responded comments/doubts?
- 2. Any other doubts/clarifications needed?









Some ideas to consider in groupwork (if pertinent)

- Create groups with a <u>purpose</u>, rather than "randomly" (gathering information)
 - Think about students' skills, knowledge, needs, interests
 - Diversity of groups (gender, background, etc.) (this applies even for icebreakers, etc.)
 - Repetition or not of people in a group (teams); students' relationships, etc.
- <u>Anticipate</u> difficulties and co-create "procedures" for them.
 - Assigning rotating roles (facilitator, recorder, presenter, debate-enhancer, groupwork strategist, etc.)?
- Follow the process and ask for self- and peer-assessment (not just at the end in mid-/long-term tasks. No solution then).
- Size <u>depends</u> on the task (5 people?).
 - Big groups tend to develop existing ideas. Small groups tend to bring new ideas and creativity (Wu et al., 2019).
- <u>Teams</u> emerge with <u>time</u>. Maintain groups for team creation, generate co-responsibility, co-dependance.





Some ideas to consider in groupwork (if pertinent)

Feel free to share your ideas in the forum!

- Having a goal makes the team?
- Group/teamwork-related skills. Learnt before or to learn in our courses?
- Peer-/self-assessment at the end as a motivator? Do you mean grading?





BREAK (8MIN)

p UTokyo Global FFE

T&L METHODS, STRATEGIES, TECHNIQUES



Flipped Classroom. What is it?

Sounds like the students take the role of teachers/instructors and teach their peers.

Flipped classroom make students be the main speaker and sharer of a course. The teacher is only an organizer and guider. It is not suitable for students with low motivation and introvert personalities.

Flipped classroom is a teaching concept, where the students study on their own at first, and in class they mainly question the teacher about things they struggled to understand or do problems together. I think it leads to a lot more interaction and can enable the teacher to understand his students better, and which topics are hard.

Flipped classroom must be able to hook students interest and encourage students' motivation on the contents of the upcoming class.

Flipped classroom creates courses, texts, or lectures that can be viewed or read at the student's pace.

Flipped classroom: student learn by themselves before class (self reading etc.). The class is mostly for practice.

The flipped concept means doing traditional learning methods (mainly lectures) as homework and traditional homework activities in class in order to maximize teachers coaching time.

The flipped classroom is about changing the environment of the students to more informal learning which leads to a practical approach at school. Secondly, The flipped classroom is a strategy that encourages learning or reading about a topic prior to formal classroom lessons where one can discuss the topic by learning about different perspectives from other members.

I understand "flipped classroom" as any learning method in which the content is presented outside the classroom, which is in turn used for practicing/discussion time.

In flipped classroom, more active involvement of students in learning, which requires preparation before a class by self oriented studying.

A flipped classroom is when students are given the material in advance (videos/articles) etc to read at home, so that the discussion can happen in class. "Flipped classroom" is a method that makes students to prepare for the class in advance. This brings the students more opportunities to be able to interact in the in-person classroom (or currently in zoom class).

Flipped classrooms ask students to do tasks and most parts of thinking and understanding on their own (or at least play as the leading character in classrooms. It also asks teachers to prepare materials ahead of time, and prepare more for upcoming questions and situations (this includes challenging problems even for teachers).

Flipped classroom. Significance

- Allows for a more **significant** work in class and more **refined** practices, ideas, doubts, etc.
- Provides **structure** for active learning & problem solving (Strelan et al., 2020)
- Positive (moderate) effect on performance & learning outcomes (Strelan et al., 2020; van Alten et al., 2019)



• Fosters satisfaction and motivation (Bredow et al., 2021; Akçayır & Akçayır, 2018; O'Flaherty & Phillips, 2015; Thai et al., 2017)



Flipped classroom. Fundamental idea

- Hybrid/blended learning (face-to-face + online / asynchronous + synchronous).
- Transfers outside of the classroom part of the learning process (the beginning).
- Students begin to learn before the class (asynchronous guided learning).
- Strategy, method, approach,?

Perhaps it is a matter of...

How much does it affect \underline{you} and the $\underline{T-L\ process}$ you design?

Is it part of your philosophy of teaching? Is it how you designed your course? Is it something you use on certain classes?







Images by the CTL, University of Washington. Flipping the classroom <u>https://teaching.washington.edu/topics/engaging-students-in-</u> <u>learning/flipping-the-classroom/</u>

Remember day 1? Metacognition

You reflected about the impact that the T-L sequence had over your learning gain. The sequence was:

(a) making knowledge explicit, (b) watching a material addressing the topic before class, (c) discussing ideas and doubts about the topic in class, (d) discussing practical implications of the topic, (e) reflecting on your own knowledge about the topic.



Flipped classroom. Overall



Flipped classroom. Overall

Guided first exposure to content



Assessment of learning



Building over incipient learning



Before class Asynchronous Multiple ways





Before class, in class Multiple ways (feasibility) Synchronous Multiple ways



Flipped classroom. Ideas to keep in mind

- Guiding and stimulating asynchronous learning.
- Accessibility and resources.
- Assessing learning (multiple ways).
- Class for re-elaborating knowledge, discussing, applying, ...
- Time to get used to it (students and teachers).
 - Feasibility: type of content, workload, time.





Until now...

Doubts, comments, experiences...





Gamification. What is it?

- To design a game or game environment in order to learn. Probably an example of gamification is the app "duolingo", where one learns languages in a way similar to a game app.
- Gamification tries to make challenging academic content easier to digest, in terms of leisure and entertainment. However the designer of gamification process shall aware not to make the game too addictive.
- Gamification involves e.g. providing small rewards to small tasks. Personally I'm not a fan because it externalizes intrinsic motivation, you shouldn't be learning for the "points" but for learning itself.
- Gamification involves the contents that the activity intend to deliver and the activity must not dull. The learners must feel flow with the classroom.
- Gamification: including games/competition/"fun" into learning process.
- To gamify learning is to infuse learning content into any type of "fun" activity.
- Gamification for learning purposes involves different evaluation methods for the lessons learnt during lectures through which one can understand and evaluate their knowledge extent in that area.
- In gamification, provide more interactive programs for students to learn.
- "Gamificaiton" is the process of using game-like activities to motivate students with fun.
- Gamification is involved when ideas are turned into games... such as the Monopoly Game (Elizabeth Magie)... where people of all ages can learn complex materials by playing the game.
- "Gamification" is a technique that applies gaming aspects to the education.
- Gamification can be described as a "reward" system. Like games provide achievements and rewards for those who accomplish certain requests, the gamification learning process breaks down the large topic into tiny "requests", then put suitable "rewards" for each "request".



Gamification. Fundamental idea & significance

• Use of game design elements in non-game contexts (Deterding et al., 2011; p. 9)

 Positive effects on cognitive learning outcomes (Huang et al., 2020) and moderate effect on students' achievement (Yıldırım & şen, 2021). Positive but less stable effects on motivational and behavioral learning Outcomes (Sailer & Hommer, 2020).





Gamification. Ideas to keep in mind

- Diversifying beyond "pointification" (leaderboards, badges, etc.): quests, levels, avatars, time limits, performance graphs, storytelling, non-linear navigation, etc.
- Time to design & accessibility / Keeping it simple.
- Different types of players.
- Purpose (not fun for fun).
- Relevance of attitudes, perceived usefulness (easy, learning, socialness), and hedonic value and enjoyment (Baptista & Oliveira, 2019)







Now...

- 1. Individually (7 min.). Read the resources and take notes of your doubts. Think about what a teacher should consider when implementing that technique.
- 2. Group of experts (15 min.) <u>Discuss ideas & clarify doubts</u>
 If you have time, share your ideas about what a teacher should consider when implementing it.
 At the end, you will present technique and ideas in 2 slides.



Room 1 Room 2 Room 3 Room 4 Observers: free to choose one group to observe

3. Meet with experts in other techniques (4min/expert(s)=8min)

okyo Global FFDP

- Explain your technique (1min)
- **Receive** comments/questions/doubts (1min) (no response)

Room 1 Room 2 Room 3 Room 4 Observers: free to choose one group to <u>observe</u>

BREAK 2



- 4. Return to group of experts (8 min)
 - Share **comments/doubts** and ideas about what a teacher should **consider when implementing** this technique
 - Prepare 2 slides ("in-class task" Google Classroom):
 - **Describing** the technique (solving the doubts emerged).
 - Sharing what teachers should **consider when implementing** it.
- 5. Present technique (2min/group) & whole class discussion

Tokyo Global FFDP

Group 1 Group 2 Group 3 Group 4 Observers: free to choose one group to <u>observe</u>



To know more... other techniques

- Dramatization/Role-playing
- Reverse jigsaw
- Forums/discussion boards
- Debates/panel discussions
- Phillips 66
- Four corners
- Think-tac-toe
- Learning diaries/portfolios
- Demonstrations/peer-modelling/learn-by-teaching
- Questioning
- Simultaneous dialogues
- Collaborative annotation of texts
- Speed-dating
- Assessment & feedback related techniques DAY 3
- Signature pedagogies





Educational resources/technology/tools

- PerUsAll (sharing comments on documents & videos)
 <u>https://app.perusall.com/home</u>
 Course code: HERVAS-NICOLAS-K9E7P
 - Amanote (annotating course materials)
 - Mentimeter, Kahoot, Socrative, Quizizz, etc. (polls, quizzes, etc.)
 - Scorion, Mahara (e-portfolio)

. . .

- Peek, Goosechase (gamified field trips, missions, etc.)
- Flippity, Gimkit (creation of gamified activities)
- Mozzilla Hubs (meet, share, collaborate in 3D virtual space)
 - Virtual/augmented reality (see Radianti et al., 2020)
- VoiceThread (asynchronous voice and video talks, discussions, etc.)
- Padlet (sharing ideas, posts, threads, etc.)
- Skilltrack (to track and assess skills development)
- Turnitin, Speedgrader, GradeScope (evaluating, grading, feedback, etc.)



CLOSING UP & BEFORE NEXT WEEK



Synthesis of today

- Strategies in the video, flipped classroom, gamification, different techniques.
- Groupwork

- Design involving:
 - Flipped classroom & materials with gaps.
 - Learning by doing: peer-instruction and jigsaw technique
 - Groupwork.
 - Connection between sessions.
 - Building on students' ideas.





Next session

Assessment & feedback

How can we obtain information on how and what our students learn to enhance their learning and adjust our courses/classes?





Before next session...

Formulating questions

(3questions): May 19th

What you learnt & self-assess participation

(<200w): <u>May 19th</u>

Criteria to assess groupwork

<600w. May 22nd

Watch videos (& participate in forum voluntary)

May 22nd . (Explore PerUsAll voluntarily. HERVAS-NICOLAS-K9E7P)

Let's enjoy the ride





Let's check it out together



Before next session...

- 1. Criteria to assess groupwork. Deadline: May 22nd.
 - 1. Describe 5 <u>specific</u> aspects to consider when assessing groupwork
 - 2. From 1 to 10, which would be the importance of each of the 5 aspects? Argue it
 - 3. Assess & grade yourself in today's groupwork using this criteria. Argue your self-assessment
- 2. Watch videos for DAY 3 & participate in the forum (forum participation is voluntary). Deadline: May 22nd
- 3. Formulating questions. Deadline: May 19th.

Create 3 multiple choice questions: 1 about "-based" strategies, 1 about PI, JiTT or TBL, and 1 about the techniques we saw today.

4. What you learnt (after feedforward document) & self-assess participation. Deadline: May 19th. After that, please, complete a survey about the criteria to assess in-class participation:





51



- Questions, doubts, suggestions, comments, proposals, etc. about any topic.
- For later doubts, you can use the forum created in Google Classroom.
- For personal consultations or talks, contact us via e-mail: Gabriel Hervás @ utokyo_fd@he.u-tokyo.ac.jp



Finite to talk to us States to talk to us the states of th



UTokyo GLOBAL

Future Faculty Development Program

Thank you!

See you: May 24th

Online informal meeting/orientation: May 17th (13h-14:15h) Zoom will be open (our door & mail are always open)

> Dr. Gabriel Hervas gabriel@he.u-tokyo.ac.jp Center for Research and Development of Higher Education The University of Tokyo

UTokyo GLOBAL

Future Faculty Development Program

"Just" talk 🕲



References

- Akçayır, G., & Akçayır, M. (2018). The flipped classroom: A review of its advantages and challenges. Computers & Education, 126, 334–345.
- Baptista, G., & Oliveira, T. (2019). Gamification and serious games: A literature meta-analysis and integrative model. *Computers in Human Behavior, 92*, 306-315.
- Bergmann, J., & Sams, A. (2012). Flip Your Classroom: Reach Every Student in Every Class Every Day. International Society for Technology in Education.
- Betti, A., Biderbost, P., & Domonte, A. G. (2022). Developing Students' "Soft Skills" through the Flipped Classroom: Evidence from an International Studies Class. International Studies Perspectives, 23(1), 1-24.
- Bredow, C. A., Roehling, P. V., Knorp, A. J., & Sweet, A. M. (2021). To Flip or Not to Flip? A Meta-Analysis of the Efficacy of Flipped Learning in Higher Education. *Review of Educational Research*, *91*(6), 878-918.
- Center for Teaching and Learning. Queens University (2013). Focus on active learning. Active learning Strategies. Focus on Active Learning (queensu.ca)
 Cilliers, L., & Pylman, J. (2020). South African students' perceptions of the flipped classroom: A case study of higher education. Innovations in Education
- Cilliers, L., & Pylman, J. (2020). South African students perceptions of the filipped classroom: A case study of higher education. *Innovations in Education and Teaching International.* https://doi.org/10.1080/14703297.2020.1853588
- Clark, D. B., Tanner-Smith, E. E., Killingsworth, S. S. (2016). Digital games, design, and learning: A systematic review and meta-análisis. *Review of Educational Research, 8(*1), 19-122.
- Deterding, S., Khaled, R., Nacke, L. E., & Dixon, D. (2011, May). Gamification: Toward a definition. *In CHI 2011 gamification workshop proceedings* (Vol. 12, pp. 12-15). Vancouver BC, Canada.
- Huang, R., Ritzhaupt, A.D., Sommer, M., Zhu, J., Stephen, A., Valle, N., Hampton, J., & Li, J. (2020). The impact of gamification in educational settings on student learning outcomes: a meta-analysis. *Educational Technology Research and Development, 68*, 1875–1901.
- Fatmi, M., Hartling, L., Hillier, T., Campbell, S., & Oswald, A. E. (2013). The effectiveness of team-based learning on learning outcomes in health professions education: BEME Guide No. 30. *Medical Teacher, 35*(12), 608–624.
- Gast, I., Schildkamp, K., & van der Veen, J. T. (2017). Team-Based Professional Development Interventions in Higher Education: A Systematic Review. *Review of Educational Research, 87*(4), 736–767.
- Kafai, Y. B., & Burke, Q. (2015). Constructionist Gaming: Understanding the Benefits of Making Games for Learning, *Educational Psychologist, 50*(4), 313-334.
- Kennedy, F. A., & Nilson, L. B. (n.a.). Successful strategies for teams. https://facultyinnovate.utexas.edu/sites/default/files/TeamworkHandbook-KennedyandNilson.pdf



References

- •Lasry, N., Mazur, E. & Watkins, J. (2008). Peer instruction: From Harvard to the two-year college. *American Association of Physics Teachers, 76*(11).
- •Mazur, E. (1997). Peer instruction: Getting students to think in class. In E.F. Redish & J.S. Rigden (Eds), *The changing role of physics departments in modern universities: Proceedings of the ICUPE* (pp. 981-988). American Institute of Physics.
- Michaelsen, L. K., Knight, A. B., & Fink, L. D. (Ed.) (2002). Team-based learning: a transformative use of small groups. Praeger.
- Michaelsen, L. K., & Sweet, M. (2008). The essential elements of team based learning. New directions for teaching and learning, 116, 7-27.
- Michaelsen, L. K., & Sweet, M. (2011). Team-based learning. New directions for teaching and learning, 128, 41-51.
- Novak, G. M., Patterson, E. T., Gavrin, A. D., & Christian, W. (1999). Just-in-time teaching. Prentice Hall.
- Novak, G. M. (2011). Just-in-time teaching. New Directions for Teaching & Learning, 128, 63-73.
- Oakley, B., Rogowsky, B., & Sejnowski, T. J. (2021). Uncommon sense teaching. TarcherPerigee.
- •O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *Internet and Higher Education, 25,* 85-95.
- Parmelee, D., Michaelsen, L. K., Cook, S., y Hudes, P. D. (2012). Team-based learning: A practical guide: AMEE Guide No. 65. *Medical Teacher, 34*(5), 275-287.
- Paschal, M. J., Pacho, T. O., & Adewoyin, O. (2022). Teaching methods applied in higher education during COVID-19 pandemic in Africa. *International Journal of Educational Policy Research and Review, 9(*1), 27-40.
- Prince, Michael (2004). Does Active Learning Work? A Review of the Research. Journal of Engineering Education, 93(3), 223–231.
- Radianti, J., Majchrzak, T. A., Fromm, J., & Wohlgennant, I. (2020). A Systematic Review of Immersive Virtual Reality Applications for Higher Education: Design Elements, Lessons Learned, and Research Agenda. *Computers & Education, 147*. <u>https://doi.org/10.1016/j.compedu.2019.103778</u>
- •Sailer, M., & Homner, L. (2020) The Gamification of Learning: a Meta-analysis. *Educational Psychology Review, 32*, 77–112.



References

- •Shulman, L. S. (2005). Signature pedagogies in the professions. *Daedalus, 134*(3), 52-59.
- •Shulman, L. S. (2015). PCK. Its genesis and exodus. In Berry A. et al. (Eds.), *Re-examining pedagogical content knowledge in Science Education* (pp. 3-13). Routledge.
- Simkins, S. & Maier, M. H. (Ed.) (2010). Just-in-time teaching. Across the disciplines, across the academy. Stylus.
- Strelan, P., Osborn, A., & Palmer, E. (2020). *The flipped classroom: A meta-analysis of effects on student performance across disciplines and education levels. Educational Research Review, 30.* <u>https://doi.org/10.1016/j.edurev.2020.100314</u>
- •Sweet, M., y Michaelsen, L. K. (2012). Critical thinking and engagement. Creating cognitive apprenticeships with team-based learning. In M. Sweet & L. K. Michaelsen (Eds.), *Team-based learning in the Social Sciences and Humanities* (pp. 5-32). Sterling, Virginia: Stylus.
- •Thai, N. T. T., De Wever, B., & Valcke, M. (2017). The impact of a flipped classroom design on learning performance in higher education: Looking for the best "blend" of lectures and guiding questions with feedback. *Computers & Education, 107*, 113–126.
- van Alten, D.C.D., Phielix, C., Janssen, J., & Kester, L. (2019). Effects of Flipping the Classroom on Learning Outcomes and Satisfaction: a Meta-Analysis. Educational Research Review, 28. <u>https://doi.org/10.1016/j.edurev.2019.05.003</u>
- •Wu, L., Wang, D., & Evans, J. A. (2019). Large teams develop and small teams disrupt science and technology. Nature, 566, 378-382,
- •Yıldırım, I., & **Ş**en, S. (2021) The effects of gamification on students' academic achievement: a meta-analysis study, *Interactive Learning Environments, 29*(8), 1301-1318.

