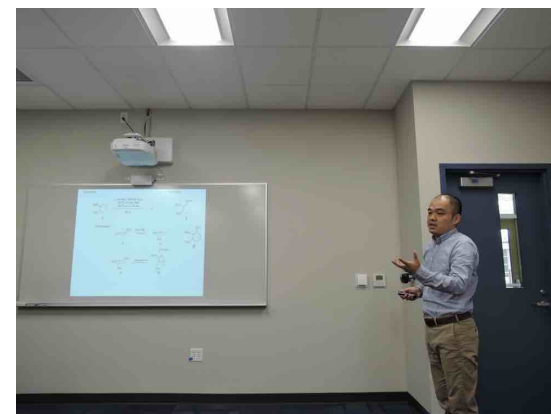
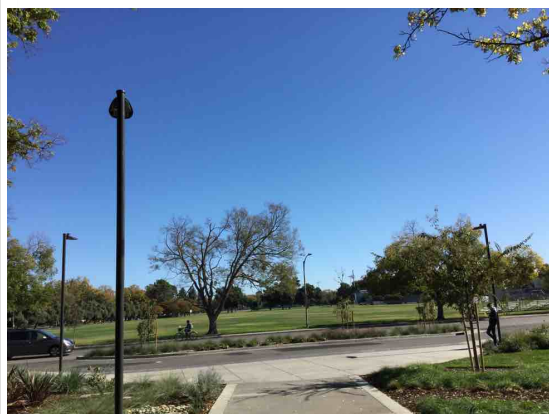


2016.12.8

Chemistry & Chemical Engineering Unit
for the Top Global Course

Summary of UC Davis Extension Program



Summary of the Program

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2016. 10. 22 – 11. 6

@University of California, Davis

Purpose

- To improving English skill
- To develop teaching skill in English



Summary of the Program

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Participants

Masayuki Nishi, Lecturer (Material Chemistry)

Takafumi Yamamoto, Assist. Prof. (Energy & Hydrocarbon Chemistry)

Yasuaki Sakurai, Assist Prof. (Molecular Engineering)

Tomohiro Higashio, Assist Prof. (Molecular Engineering)

Tomoya Miura, Assoc. Prof. (Synthetic Chemistry & Biological Chemistry)

Shisnuke Nagamine, Assoc. Prof. (Chemical Engineering)



Summary of the Program

Schedule

	Mon	Tue	Wed	Thu	Fri
1st week	10/24	25	26	27	28
9:00–11:00	Oral Presentation Skills				Visit Stanford Univ. “d.school”
12:30–15:00	Laboratory for Teaching Improvement				

2nd week	10/31	11/1	2	3	4
9:00–11:00	Oral Presentation Skills				
12:30–15:00	Laboratory for Teaching Improvement				
15:10–16:00	Attend Chemistry Class				

Oral Presentation Skills

Instructor: Jessica Sicard



- English Pronunciation

- Tips for Presentation

 - Smile, Eye contact, Hand gestures

 - Open posture, Natural moving

- How to make good questions

 - Open-ended questions, Dig deeper

 - Power of silence, Don't interrupt

Oral Presentation Skills

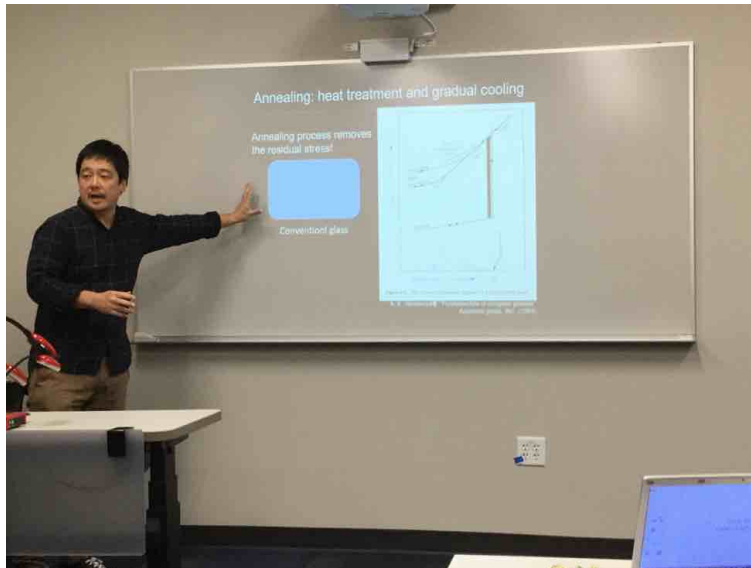
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Presentation

How to do/make something

Ex. “How to use a paper towel” from TED Talks

Hook, Signpost, Speak loudly, Audience participation



How to make tempered glasses



How to play classic guitars

Instructor: Mikaela Huntzinger

- Contents:
 - Flipped classroom
 - Backward design
 - Objective: Bloom's taxonomy
 - Formative and summative assessment
- Visit Stanford Univ. "d.school"
- Attend Introductory chemistry class
- Lesson demonstration



Flipped Classroom

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Before Class: Preparation using Textbook, Movie, etc.

In Class: Problem, Discussion, Explanation

Merit: More active, Immediate feedback

* This class was done in “Flipped” style



Group Discussion



Feedback from Instructor

Backward Design

Traditional class design

1. Decide **textbook** and **contents** to teach
2. Decide problems for examination

Backward design

1. **Learning objectives** for students
2. **Assessment** of their achievement
3. **Teaching and learning activities**

Objective: Bloom's Taxonomy

Learning objective

“You will be able to ... at the end of the class”

Bloom's taxonomy

Degree of learning is classified into 6 levels

Lower-order skills	Higher-order skills
1. Remembering	4. Analyzing
2. Understanding	5. Evaluating
3. Applying	6. Creating

Formative Assessment

Assessment



- Summative assessment
Evaluate students' results
- Formative assessment
Check students' achievement
→ Teaching Improvement

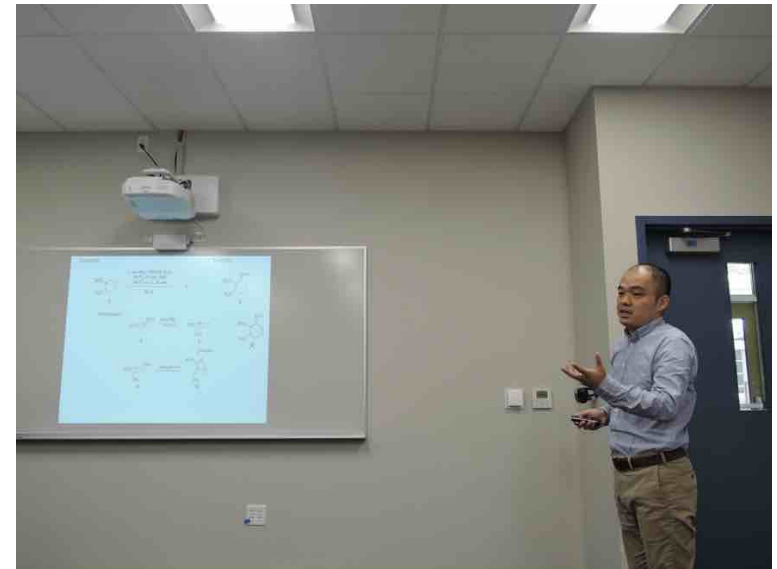
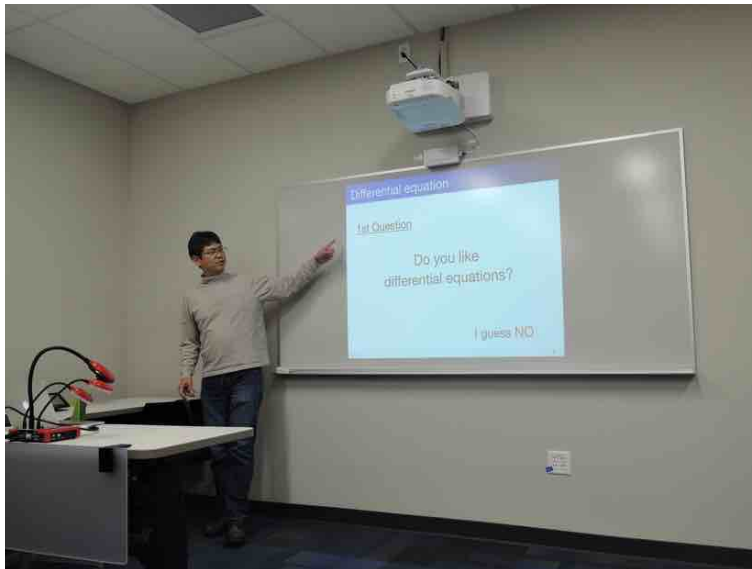
	Formative	Summative
For what	Feedback for students and teachers	Grading
When	In class	End of semester
How	Anonymous answer Think, Pair, Share	Examination, paper

Lesson Demonstration

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Based on Backward design

1. Final class (**Summary**)  Feedback
2. A typical topic during semester
3. 1st class (**Overview, purpose**) 



Summary (Personal Impression)

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- Flipped classroom, Backward design, etc. are the useful techniques for teaching in English as well as in Japanese.
- We realized the effectiveness of the techniques because the classes were based them.