

CONFERENCE 2023

Shaping the Future:

Key Themes in Higher Education

ChatGPT: A Case Study

A case study from my last term

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Question

Is ChatGPT a research tool or a plagiarism engine?

Background

- Since its release in November 2022, ChatGPT has created huge contradicting reactions from education institutions worldwide: from restricting students' access to ChatGPT to embracing the technology.
- I teach MBA students in University Canada West. Our 2023 Winter Terms runs from January 9 to March 25, 2023.
- The paper presents my observations and findings from this period of 10 weeks in this uncharted territory.

Background

My courses:

- Business Analytics: high quantitative
- Operations Management: mixed qualitative and quantitative

My students in the 2023 Winter Term:

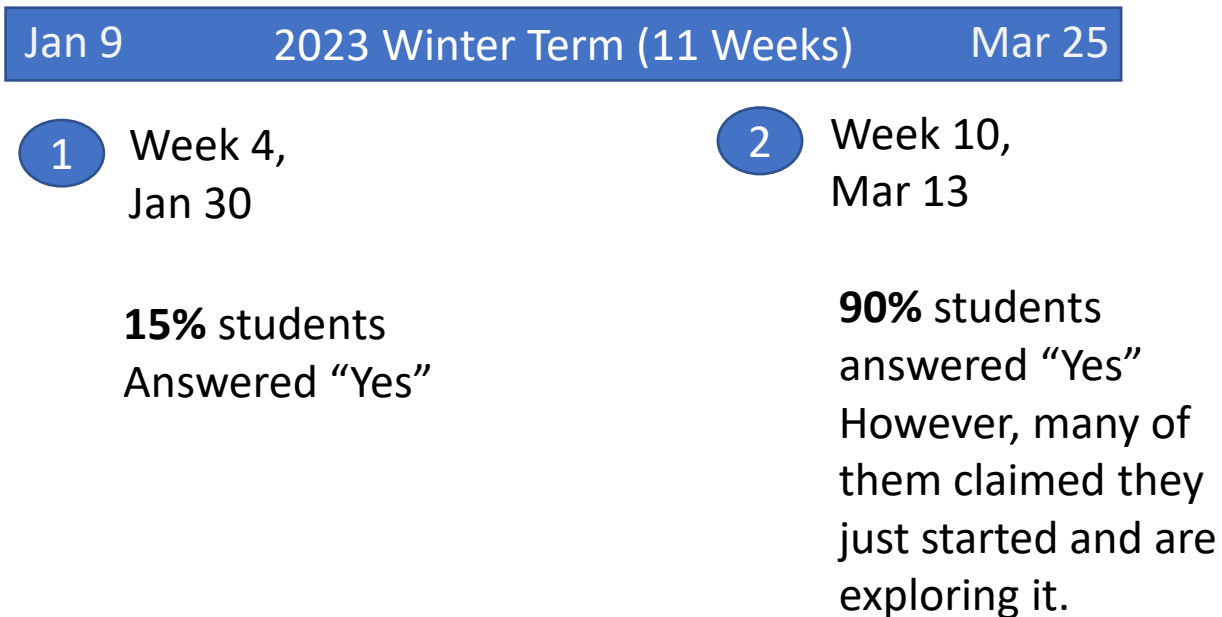
- 171 students in 6 classes (about 30 students per class)
- About 90% of the students come from overseas

Focus of the case study:

1. How fast the students has adopted ChatGPT in their study
2. What are possible impacts on their performance assessments
3. What does it mean to learning and teaching in the future

Rate of adopting ChatGPT by Students

- Twice I asked the students indicate whether they use Chat GPT



- The rate of adopting ChatGPT by the students is incredibly fast.
- It is not difficult to envisage that all students will become good users of ChatGPT in very near future.

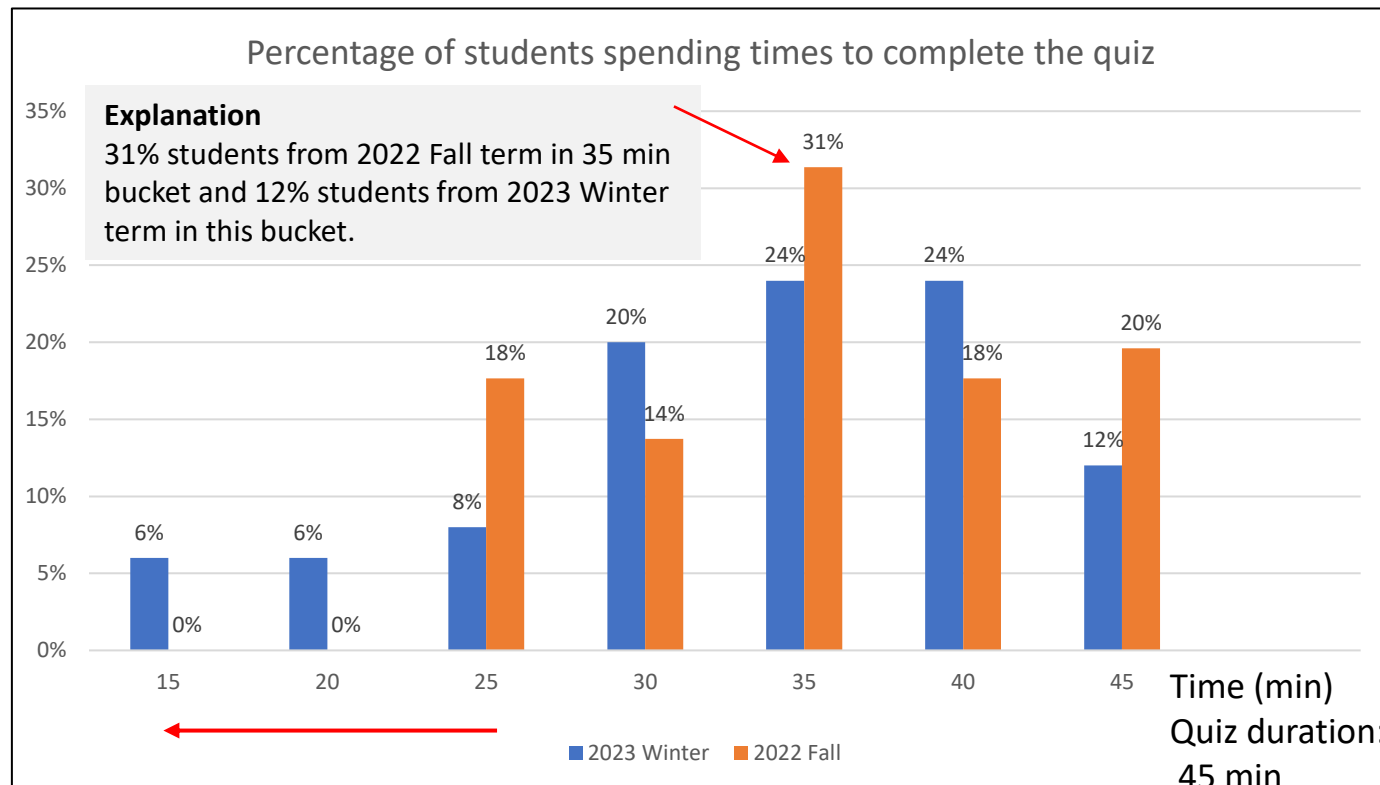
Quiz

- Quiz is the common method to test students' understandings of concepts and quantitative models.
- My week 8 Quiz has **13** questions: 4 x MCQ, 4 x T/F, 5 x Numerical calculation.
- I copied and pasted each question into ChatGPT box and run ChatGPT.
- ChatGPT gave **12** correct answers out of 13 questions.

- Qualified statement: Because of **formatting**, it is not a simple copy and paste task. When a question is copied and pasted into ChatGPT box, the original format such as table, MCQ form will be lost. One needs to reformat the question. Otherwise ChatGPT's answer could be incorrect.

Quiz

- The duration allocated to the quiz is 45 minutes. It is conducted online.
- It became noticeable to me that high percentage of students spent less time in answering questions than previous terms, as shown below



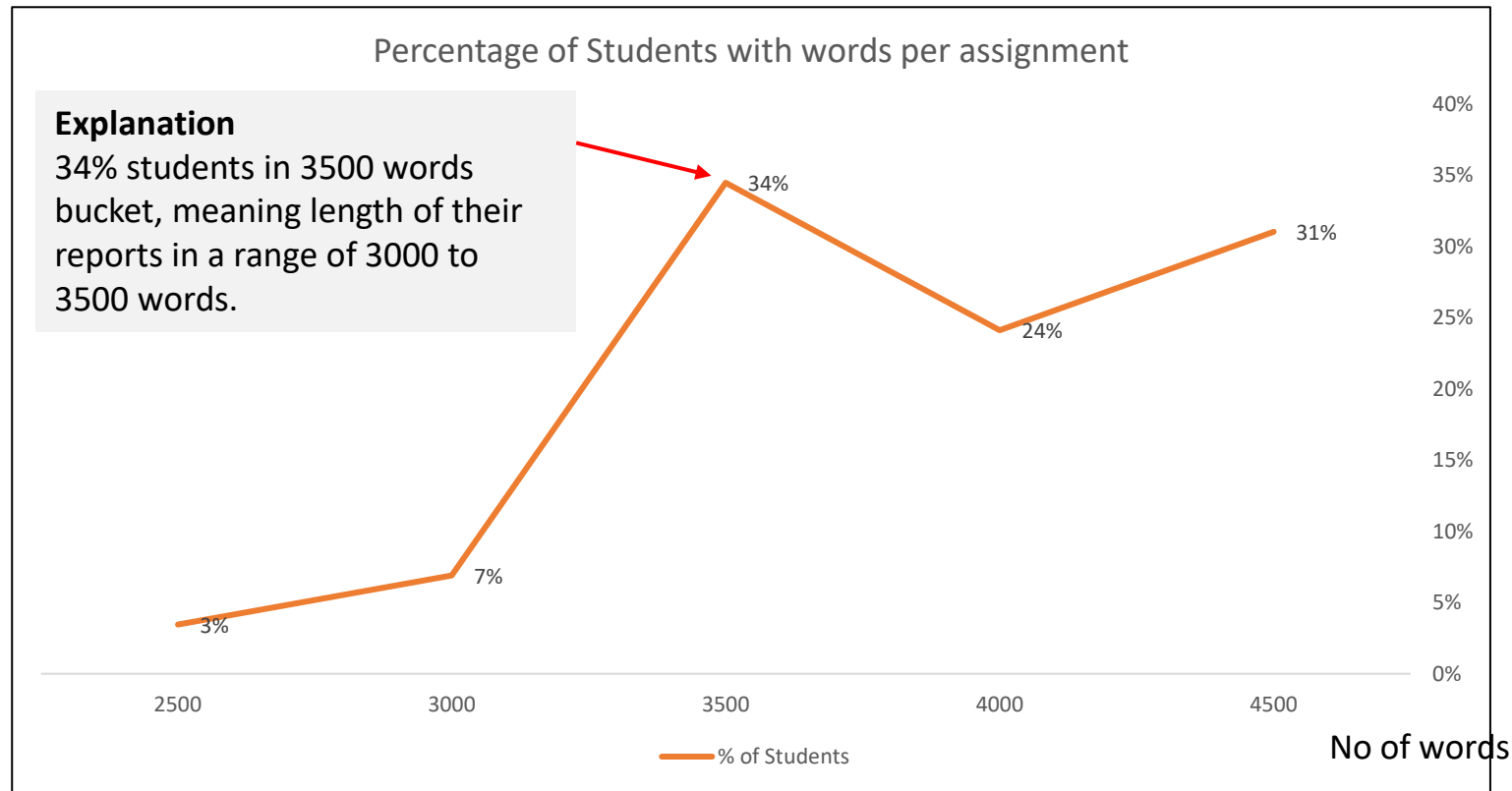
- The shift to 15-20-25 min bucket for students in 2023 Winter term: 30% vs 18% in 2022 Fall term.
- Averages from both terms are very much in the same range.
- It is premature to conclude that the shift is due to ChatGPT.
- It is matter of time that ChatGPT becomes students' new "calculator".

Assignment

- Assignment is another way to assess students' ability in conducting research and/or solving practical problems.
- The assignment under my observation is to do with the global supply chain transformation.
 - The guideline for the assignment is provided
 - The length of the paper is preferably in range of 3,000 words
 - This assignment is due on March 19th
 - The similarity is checked by Turnitin Checker upon submission

Assignment

- Length of report: 3,000 words are no longer problematic to students



- The length of report, 3000 words, has been problematic to many students who come from non-English-speaking countries. But it is not a problem this time.
- 90% students wrote reports with more than 3000 words.

Assignments

- Similarity reported by Turnitin Checker: Many reports have similarity in a range of 3%-10%.
- When it is broken down, the sources mainly come from other students' reports with low degree of match ranging from 1% to 3% as shown in the following example.

2% match (student papers from 05-Dec-2022)
Class: Operations Management (Moodle TT)
Assignment: Assignment-2 Submission (Week 9) Part 2 (Moodle TT)
Paper ID: [1971733068](#)

1% match (student papers from 10-Mar-2023)
Class: Operations Management (Moodle TT)
Assignment: Assignment-2 Submission (Week 9) Paper 2 (Moodle TT)
Paper ID: [2034292689](#)

1% match (student papers from 05-Dec-2022)
Class: Operations Management (Moodle TT)
Assignment: Assignment-2 Submission (Week 9) Part 2 (Moodle TT)
Paper ID: [1971428779](#)

- The similarity report generated by Turnitin Checker.
- What has stood out is a widespread low degree matches among students.

Assignment

- **Contents of Report**

- Many reports have very similar structure in terms of sections, sub-sections and headings.
 - I entered each of key points from the guideline into ChatGPT box and could see many traces
- On the other hand, there are efforts in making use of those materials. For instance, some sections have very different contents and style of writing, such as abstract, introduction, recommendation and conclusion.

Question

Is ChatGPT a research tool or a plagiarism engine?

Is ChatGPT a plagiarism engine?

- According to ChatGPT, the definition of plagiarism is the act of using someone else's work or ideas without giving proper credit to the original author. But when the work is generated by something rather than someone, this definition is tricky to apply.
- As Emily Hipchen, a board member of Brown University's Academic Code Committee, puts it, the use of generative AI by students leads to a critical point of contention. "If [plagiarism] is stealing from a person," she says, "then I don't know that we have a person who is being stolen from."

[“ChatGPT Is Making Universities Rethink Plagiarism” from <https://www.wired.com/story/chatgpt-college-university-plagiarism>]

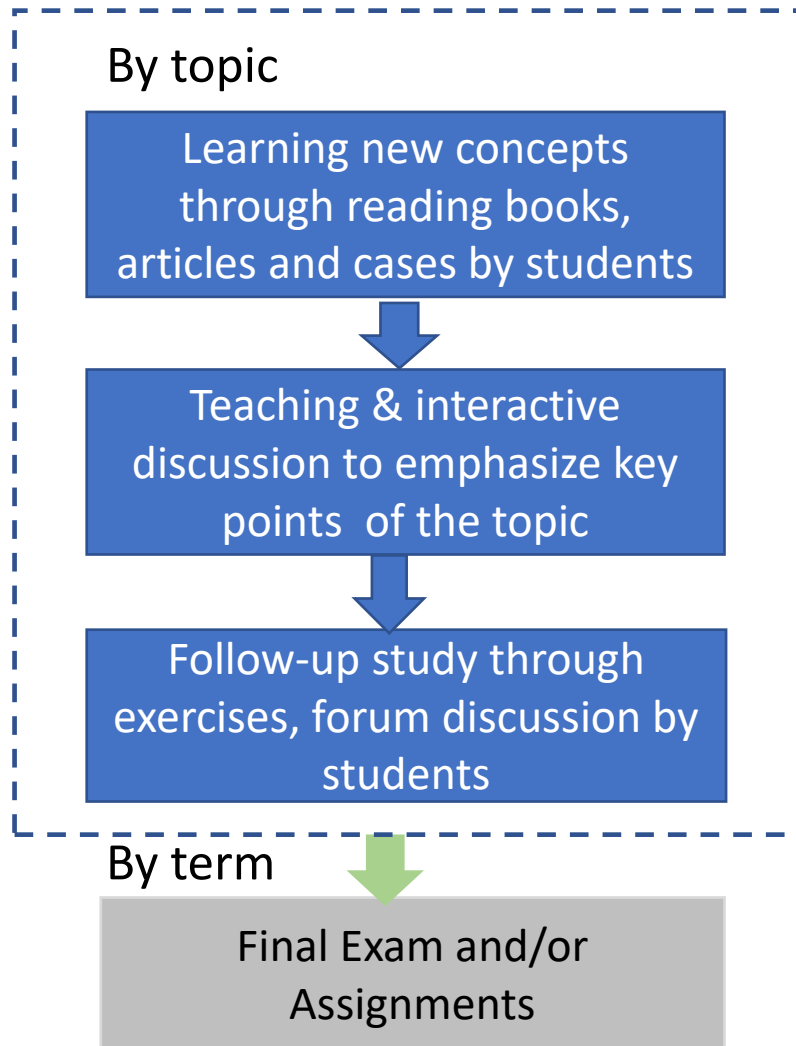
What the students have said:

- ChatGPT is a helpful conversational partner for learners to answer questions about science, mathematics, history, language, and other topics. It significantly improves the learning efficiency and save a lot of time in searching information.
- “It is a good reference in academic and information-focused subjects. However, the accuracy of the answers depends on the skill of asking questions, such as keywords and the direction of thinking” [Quote from one student].

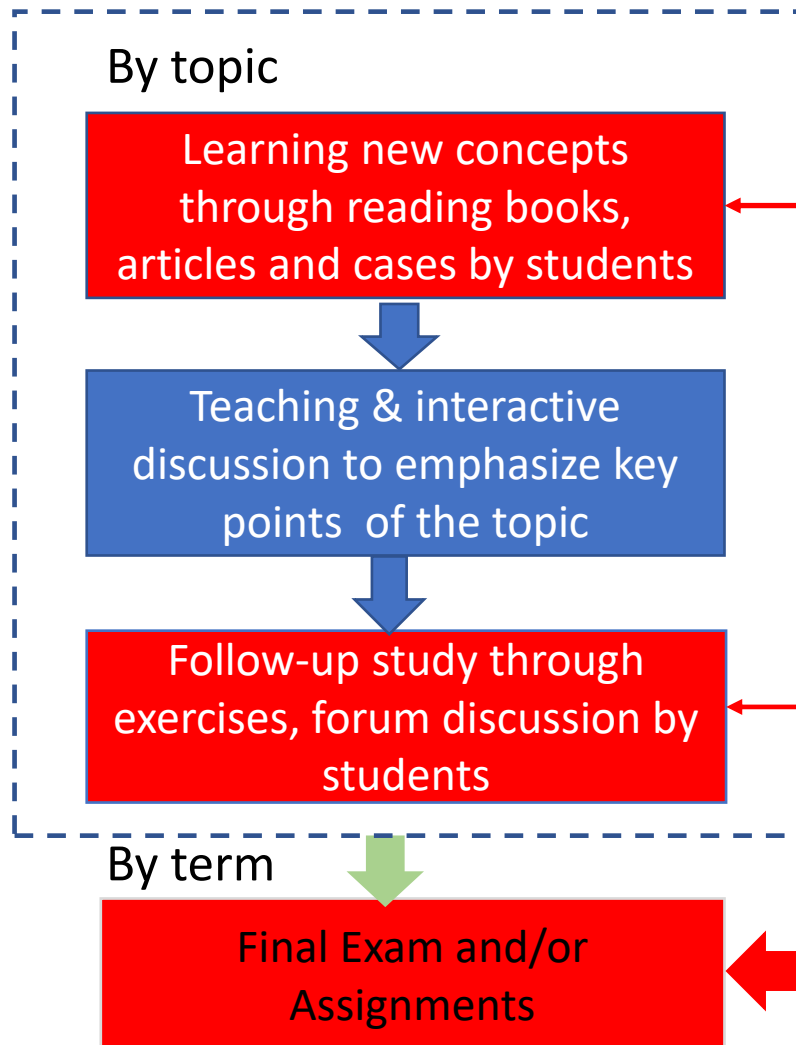
Summary:

- It is matter of time that ChatGPT becomes a new type of “calculator” for all of us in the knowledge acquisition.
- ChatGPT is adding a new layer to what has been established between plagiarism and learning.
- ChatGPT is dramatically disrupting current way of learning and teaching.

ChatGPT: a major disruption to teaching & learning



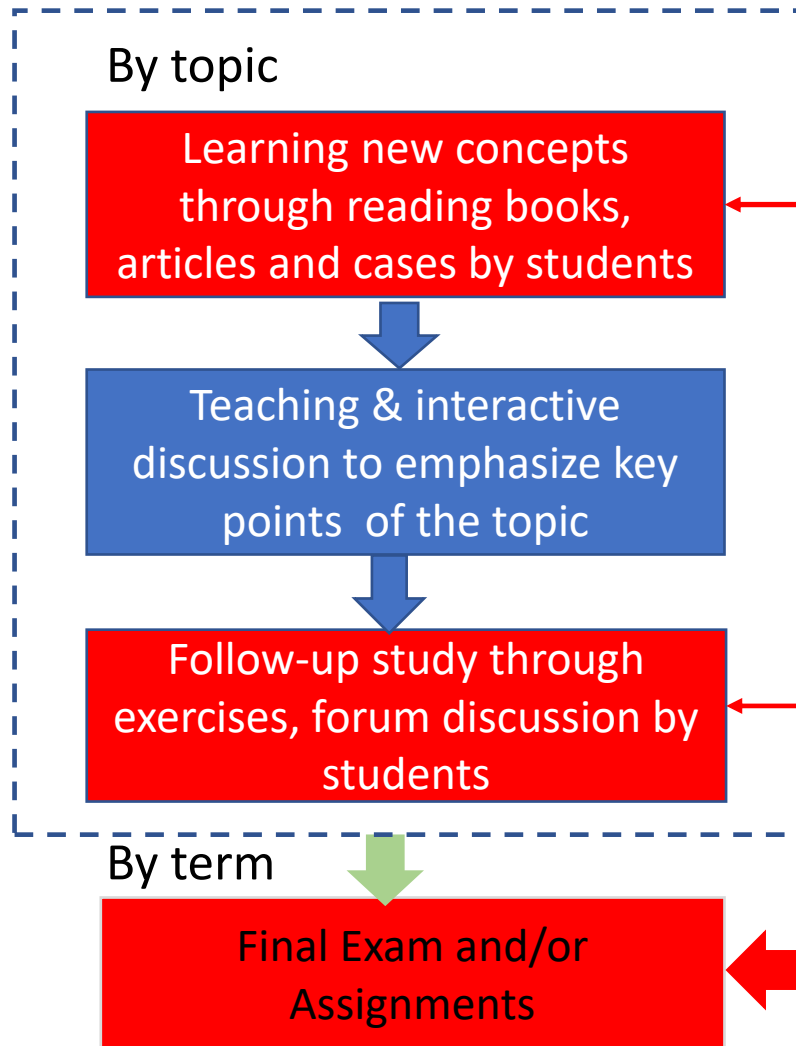
ChatGPT: a major disruption to teaching & learning



ChatGPT has *almost* automated these tasks

ChatGPT is diminishing the role of quizzes and standard tests in assessing students' performance (unless they are conducted in paper forms and classrooms, the environment without access to internet).

ChatGPT: a major disruption to teaching & learning

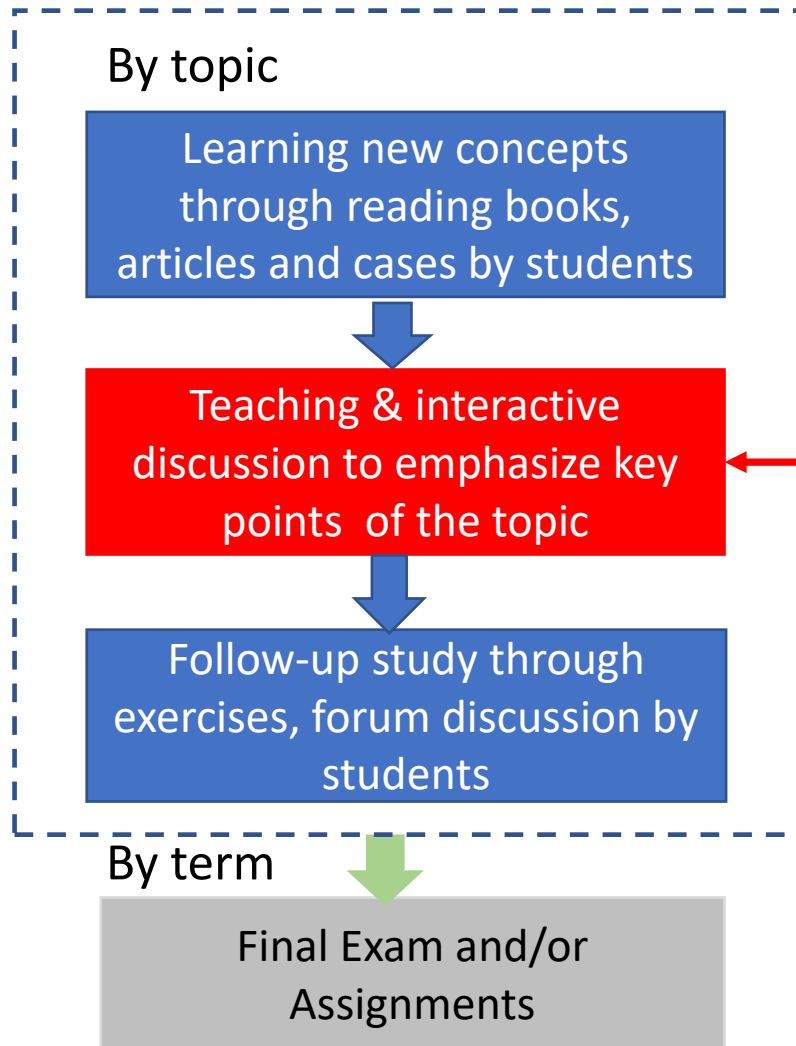


ChatGPT has *almost* automated these tasks

ChatGPT is diminishing the role of quizzes and standard tests in assessing students' performance (unless they are conducted in paper forms and classrooms, the environment without access to internet).

It is increasingly difficult or impossible to make performance **differentiation** among students through quizzes, tests and assignments

Reflections



Learning with ChatGPT. Whilst ChatGPT provides students with an efficient way to retrieve information, the information could be imperfect. It is imperative to learn how to interpret output from ChatGPT and use it together with other information sources.

Teaching & interactive discussion sessions become more important than at present for following reasons:

1. Emphasis can shift to how to apply what have been learned to solve real problems, as the information acquisition is much less time-consuming with help of ChatGPT.
2. Active interactions and engagements with students provide a way to make performance differentiation among students.

Concluding Remarks

- At end of 2023 Winter term, I observed impacts of ChatGPT on selected quiz and assignment. This has reinforced my believe that ChatGPT is a disruptive technology to current way of learning and teaching.
- It is an academic discussion whether ChatGPT is a research tool or a plagiarism engine. The fact is that it is matter of time that ChatGPT becomes a new type of “calculator” for all of us in the knowledge acquisition.
- I think that we need to embrace ChatGPT and use it to improve teaching process and foster original thinking and problem solving in students.

Thank you !

Q & A