

# Every Cloud Has A Silver Lining: Positive Side of Spring 2020 Online-Only Teaching (materials for discussion)

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What Happened: . . .

Online-Only . . .

Online-Only . . .

But There Were Also . . .

Material Aspects

What Skills Students . . .

Direct Skills (cont-d)

What Skills Students . . .

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## 1. What Happened: Brief Reminder

- For a significant part of Spring 2020, the whole world was forced to switch to *online-only* (*remote*) teaching.
- This was *not* just *synchronous* online teaching, when the only difference is spatial separation.
- Because of bandwidth limitations, a significant portion of teaching was *asynchronous*.
- Natural questions are:
  - what can we learn from this experience?
  - how can we use this experience in our future teaching?
  - what are related open questions?

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## 2. Online-Only Experience: Challenges for Students

- Many students are accustomed to get most of the material:
  - either directly from the teacher,
  - or at least in the environment which is actively controlled by a teacher.
- In the asynchronous online-only regime, students had to learn, to a larger extent, on their own.

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### 3. Online-Only Experience: Challenges for Students (cont-d)

- Another problem of asynchronous learning is asking questions.
- Many students are still learning how to ask questions.
- In face-to-face teaching, it is not that critical:
  - a teacher asks guiding (clarifying) question(s), and
  - if needed, after several iterations, the question is answered.
- In an asynchronous regime, a reply may follow after several hours, so this may not work.
- As a result, some questions remain unclear – thus unanswered – for a longer time.

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## 4. But There Were Also Positive Aspects

- When overcoming challenges, we – and students – gained some skills.
- We also gained some material advantages: new content material, new platforms.
- We gained a better understanding of students' limitations and possibilities.
- It is important to learn as much as possible from this unique experience.

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## 5. Material Aspects

- The first visible positive outcome is that a large amount of *new content material* was posted.
- Some of this material was prepared in a rush, looks raw.
- Now we can polish it, make it more understandable (and more entertaining).
- This will be all good to use in the future, both for face-to-face and for online learning.
- Many software *platforms* have been developed and adjusted for online teaching.
- This we can also use in the future.

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## 6. What Skills Students Gained: Direct Gain

- With online-only teaching, students had to master the skill of understanding the material largely on their own.
- Why is this important?
- In the modern world, acquired knowledge becomes outdated fast, everyone needs to learn new things.
- In real life, a significant part of this *lifelong learning* does not come from formal schooling.
- We learn from books, from papers, etc.
- This learning is not easy – especially immediately after a school or university, where:
  - all the materials are thoroughly prepared by professionals
  - so that learning can be easy.
- New ideas, new techniques are rarely that clear.

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## 7. Direct Skills (cont-d)

- A 20th century mathematician John Littlewood said (half-seriously) that:
  - a quality of a mathematicians can be gauged
  - by the number of badly written papers that he/she authored.
- Ability to learn on your own, from not perfectly clear texts, can help students become 21 century citizens.
- It will also help students – who had to *miss classes* – catch up.
- Because when catching up, a student is, to a larger extent, on his/her own.
- It will also help on *standardized tests*, where a clear understanding of written questions is crucial.

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## 8. What Skills Students Gained: Indirect Gain

- By realizing that an unclear question may not help, students learn to *ask clear questions*.
- This skill is very important for learning: it helps to pinpoint:
  - what was not clear, and
  - where others (e.g., teacher) can help.
- This can also help in real life – ability to explain oneself clearly is important in workplace.
- The experience of communicating online prepares students for remote collaboration.
- And remote collaboration is an important part of the modern workplace.

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## 9. What Else?

Let us brainstorm together!

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