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Digital education appraisal and quality perception by students and teachers at DECriS partner HEIs during the COVID-19 crisis

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on behalf of the University of Barcelona Team for DECriS Project



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Summary

- 1. Purpose, objectives and methods**
- 2. Main findings on the response to COVID-19**
- 3. Main findings on OER use**
- 4. Takeaways for improving OER use**

1. Purpose, objectives and methods

Purpose

The goal of IO2 is to get insights about the students' and teachers' attitudes towards Digital Education (DE), educational resources in general and towards canonical* OER in particular, mainly during the COVID-19 crisis and in contrast with their pre-pandemic experiences

* Beyond the general concept of “educational resource” we contemplate as “canonical” OER those that follow the UNESCO (2019) definition: “Open Educational Resources (OER) are learning, teaching **and research** [?] materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others.” (p. 5)

UNESCO (2019). *Recommendation on Open Educational Resources (OER)*.

Objectives

- **[Attitudes]** To identify, analyse and classify teachers' and students' attitudes towards digital education, especially towards OERs, in the COVID era in contrast to those prior to the pandemic.
- **[Expectations]** To identify, analyse and classify the expectations that teachers and students had at the beginning of the crisis situation about teaching in a fully digital/remote environment.
- **[Problems]** To identify, analyse and classify the actual and objective problems that teachers and students have encountered when working with digital material and activities during the crisis (tools, applications, platforms, connection, devices ...).

Objectives

- **[Adaptability]** To identify and analyse the kind of adjustments and the degree of flexibility with which teachers and students have adapted to new circumstances and made, especially those teachers who had no experience in DE pedagogical requirements.
- **[Advantages and disadvantages]** To identify, analyse and classify the reasons expressed by teachers and students in the case they foresee further use (or not) in “normal” situations of some of the tools that DE offers and have been experimented during the crisis situation.
- **[Lessons learned & Improvements/good practices]** To collect, analyse and summarize the lessons learned in DE during the crisis: proposals for the improvement of the online teaching, the use of digital material and OERs

Two research questions to contrast data from IO1 vs IO2

IO1 conclusion: “The two most dominant aspects of digital education that were implemented during COVID-19 pandemic were live teaching sessions via video conferencing tools and online communication with students.”

✓ **IO2 RQ:** In case it can be confirmed that the most dominant aspects of digital education that were implemented during COVID-19 pandemic were live teaching sessions via video conferencing tools and online communication with students, why did it happen?

IO1 conclusion: “COVID-19 pandemic didn't encourage HEI to a large-scale adoption of OER: all LIS schools/departments used digital learning materials while about 50% of them used digital OER.”

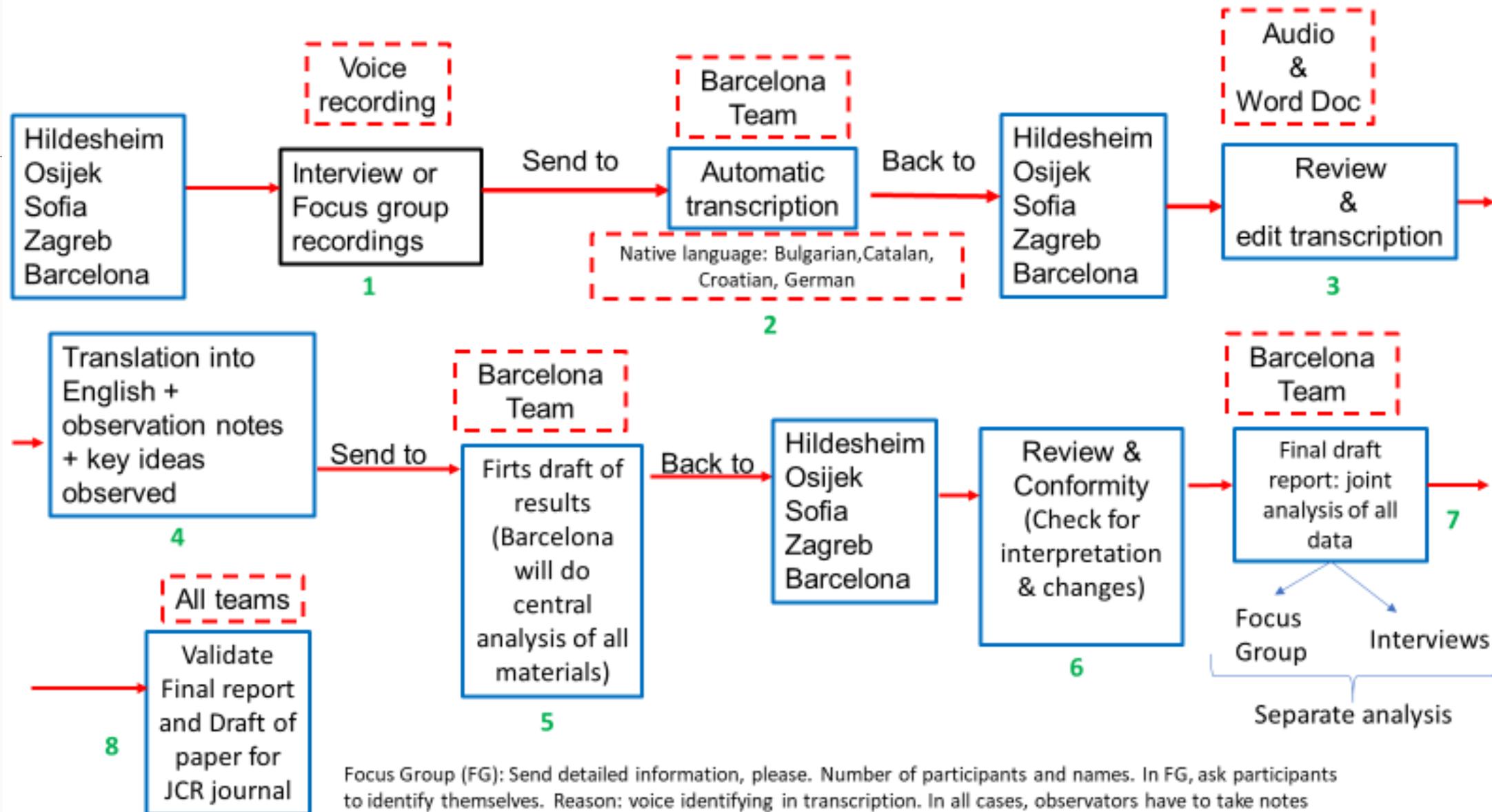
✓ **IO2 RQ:** In case it can be confirmed that the COVID-19 pandemic didn't encourage HEI to a large adoption of OER, why did it happen?

Methodological approach

A **qualitative approach** through **semi-structured interviews** with teachers and **focus groups** with students.

Purposive sampling: proportionality between genders and age groups under the following criteria:

- 1) undergraduate professors, master's professors and teachers teaching at both levels of education must be represented;
- 2) students of various courses and levels of education (bachelor's and master's degree who were enrolled during the pandemic period of lockdowns: 2020-2021).



Focus Group (FG): Send detailed information, please. Number of participants and names. In FG, ask participants to identify themselves. Reason: voice identifying in transcription. In all cases, observers have to take notes that will be very useful to the analysis of the transcriptions from the recordings.

Recorded and processed data

Partner	Interviews	Focus Group
Barcelona	14	2
Hildesheim	3	2
Osijek	9	1
Sofia	8	4
Zagreb	5	1
Total	39 teachers	10 x 5 ≈ 50 students
Total in hours (circa)	39 x 40' ≈ 1,560 h	10 x 1.5h ≈ 15 h
Total of pages (circa)	39 x 25 ≈ 1,225 p.	10 x 35 ≈ 350 p

inductive coding under the 7 axes of objectives

Table 3. Traced occurrences for “Problems (PR)” codes (by decreasing frequency of appearance)

PR09/ Difficulties keeping students' attention, participation and focus (10)
PR11/ Lack of appropriate equipment and connectivity issues (10)
PR16/ Sociability issues (10)
PR12/ Lack of adequate home space for teaching/learning (8)
PR18/ Students' work overload (6)
PR01/ Online replication of normal face-to face teaching (5)
PR14/ Communication challenges between teachers and students on the digital scenario (5)
PR17/ Psychological and health issues (5)
PR04/ Teachers' work overload (4)
PR10/ Exams not well adapted to remote emergency digital education (4)
PR19/ Decline in attendance at live sessions when recording is offered (3)
PR21/ Weakening of students' self-discipline and routines for the accomplishment of activities (3)

Reporting data analysis for each institution (exemple Sofia teachers)

PR09/ Difficulties keeping students' attention, participation and focus

The lack of fluent communication, and consequently the decline in socialisation activities among students and professors, is a topic that has also emerged among other partners. Difficulties in reaching students by emails, interactions in class in the online environment or the effect of the black camera, students attending online lectures with their cameras off, were probably the major problems in relation to communication. For professors it supposed a limitation to reach the students and to stimulate their engagement.

“...great challenge then was how to engage the attention of these frightened people, because at that moment everyone was in fear of the unknown, of the miracle that had be fallen us.” [SO_5]

“The first thing I found to be a problem was the motivation of the students. They share it themselves; I always give them time for feedback. Intellectually, it is not a problem for them to perceive the material through distance learning. But in the absence of communication with their colleagues, their motivation is not at the previous level.” [SO_7]

“Much of the living connection is lost, of what you perceive through verbal and non-verbal communication. Much smaller are the levers you can rely on to deduce how and to what extent the other person perceives the information you are trying to convey to him.” [SO_8]

Report on data analysis for each institution (example of Barcelona students)

PR09/ Difficulties keeping students' attention, participation and focus

The students said that overall they had a low active participation during the online synchronous lessons. They recognized this outcome despite some of them verbalized that, at a given moment and in the face of the problems observed, they decided by themselves to be more participative and sociable in the online lectures, in order to defeat loneliness at home and to improve the follow-up of the courses. But this kind of resolution was implemented only by few colleagues: there were 2 or 3 students online active during online lessons and the rest of the class did not involve in a participative way. For them, online teaching does not promote active participation in lectures unless the professors strongly promote it, which in their opinions was not the case in some cases.

“In my case, I am the kind of person who needs to be in the classroom paying attention and busy. When I am with the computer at home, [...] I look things up on Google or wherever, whereas in the classroom I have the feeling that if I have the computer it's to take notes and that's it.” [BA_FG_1]

“[Cameras] were turned off and of course, you could only see the teacher. Of course, the fact that you couldn't see the others, that we were all turned off, it was a bit like a bit, you just felt alone because you didn't see the reactions of the others...” [BA_FG_1]



2. Main findings on the response to COVID-19

Limitations

- In each country from each HEI belongs, the situation was treated differently. Each country had different prevention measures, even each HEI took specific directions from the general national health guidelines for education institutions.
 - For instance, restricted access to HEI campus was total in some cases during long periods, while in other cases the situation was more relaxed after the firsts weeks of the pandemic outbreak, having in those cases the option to do exams or practical classes face-to-face keeping distances and wearing masks.
 - Therefore, while some findings are common to all universities, extent of what was called lockdown others are very specific to some of the partner countries.
- ✓ **But some common trend can be traced...**

Facing the uncertainty of the situation with perplexity and pragmatism

- The word "rush" describes very accurately the process of switching all teaching to the emergency remote digital format. Indeed, there was no pause for teachers and students to re-establish themselves in the new teaching model; nor was the duration and extent of the lockdown very clear.
- The situation oscillated between the "excitement" at the individual level of some engaged and creative teachers, and the shock that students experienced as part of a society also in shock.
- The inertia of doing "business as usual" but remotely with a certain regularity and normality cannot be criticised without understanding the magnitude of the. In itself, the fact of continuing with certain teaching routines, in some cases with innovative initiatives of an individual nature on the part of each teacher, must be seen as a success in terms of the resilience of the educational institution.
- In short, teachers felt that disaster was averted, although students expressed a more critical view.

Previous experience with blended learning/ with LMS platforms, made the difference

- Previous experience with blended learning or with LMS platforms for face-to-face teaching made the difference for a better adaptation to the emergency remote teaching.
- The variety of the adaptations was very diverse, with a range of gradations:
 - ❑ Exact replication in synchronous online streaming format of the previous face-to-face class timetable and activities.
 - ❑ A 50% synchronous and 50% asynchronous allocation of time, with a symmetrical flipped classroom approach.
 - ❑ A mainly self-paced asynchronous model, with few synchronous spaces (in groups or in person).

Difficulties keeping students' attention, participation and focus

- Keeping students' attention, participation and focus was very difficult. The **black camera mode** on the side of students triggered a kind of “**feedback blackout**”.
- The lack of clear feedback from the students, especially through spontaneous verbal and non-verbal communication in the face-to-face classes was an important conditioning factor for the teachers' actions.

Socialization, psychological and health issues

- Socialization, psychological and health issues had a high impact on the students' academic performance.
- In the end, from the overall academic performance's perspective, technological or pedagogical problems were solved better or worse, but if one thing is commonplace in all the interviews and focus groups, it is that "human" factors related to interpersonal communication, health, preservation of the privacy of the home, etc., had an influence on the psychological state of students and teachers.
- Students said that the relation with their peers and professors was very detached. They added that the online system did not allow sociability as in face-to-face courses, and not everybody was prepared to attend online teaching. It was a very problematic situation especially for students as young people needed of such spaces and activities to grow up as relational creatures.
- It was specially critical for first year students at the university without a network of new acquaintances among their classmates. Experienced students had more social contact with their peers because they had made working groups or social groups in the previous academic years, which was not the case for new students. The social and initiatory function of the culture and university life was completely missed at the organizational level.

Students' and teachers' work overload

- Students' and teachers' lived under work overload. Students perceived that the workload increased, largely because of teachers committed to give the best response to the crisis, thought that more homework was a way of overcoming the lack of face-to-face teaching.
- Also, this overload of activities was linked to an attempt to replace traditional examinations with a higher number of continuous assessment activities.
- Anyway, more work for students involved more for work of preparation and follow-up for teachers.

Tecnological infrastructure & digital competences

- HEI were not ready for the challenge that an intense demand put on the technological infrastructures, despite at the end they managed to overcome the difficulties quite efficiently, either with more in-house resources or by outsourcing, like in the case of SaaS licences for videoconferencing platforms to deliver online classes.
- Also, some gaps in the digital competence of both teachers and students were also identified. Results show the necessity for professors to be trained to shift face-to-face teaching to online teaching. On the other hand, students also need to be trained to be able to learn online, such as how to behave in class in relation to engagement, interaction, collaboration, and time of self-management.

3. Main findings on OER use

Limitations

- This overview is the result of a fieldwork with LIS teachers and students from five HEI in four countries (Germany, Bulgaria, Croatia and Spain). Therefore, it should be considered just as a new partial contribution to the study of the penetration of OER. That limitation implies that the findings reported cannot be generalised to a worldwide level or to any thematic area of university education.
 - The penetration and vitality of OER in other disciplines and geographical areas is certainly very varied, as there are different contexts, where different adoption speeds are observed, where the results would certainly be more positive. There are some geographies, disciplines or institutions that are much more advanced in terms of OER and others that are at a similar stage to the one described in this report, or even worse.
- ✓ **But some consistent trend in LIS in those 5 HEI is more than an hypothesis**

Library, information and archival studies ISCED

0 Followers 0 Collections 5 Resources

Follow

Resources



Moodle course

Digital Repositories for small memory institutions

 Moodle Academy



Moodle course

Cooperation with Europeana

 Moodle Academy

<https://moodle.net/subject/f0322-library-information-and-archival-studies>

Chemistry

ISCED

2 Followers 0 Collections 31 Resources

Follow

<https://moodle.net/subject/f0531-chemistry>

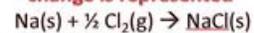


Video

A SWF animation

 Wendywinnard

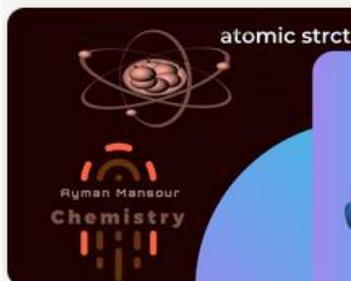
Select what type of enthalpy change is represented



- A. Enthalpy of formation
- B. Enthalpy of combustion
- C. Both
- D. Neither

Presentation

Quiz: Defining Enthalpy Changes

 Wendywinnard


Web page

simple atomic structure

 ayman


h5p

Numéro atomique

 beffad

Low OER use perception in IO2, worst than data from IO1

- The Covid-19 pandemic has not encouraged higher education institutions to adopt OER, since they are largely unknown or ignored in practice by most teachers interviewed.
- Those who were familiar with OER reported that they cannot find what they need. As for the few teachers who reported uses of OER, actually some were not aware that the resources used can be defined as OER.
- It was also evidenced that the students were unaware of what OER were, and they also did not have the perception of having used OER provided by teachers.
- But some may say they didn't use OER because they had a blurred idea of what it is an OER and where to look for them. In fact, in some cases, the teacher answer was that they are not aware of whether they have used them or not. So that, maybe there is no clear awareness of whether the educational resources located on the Internet during the pandemic were OER in the canonical sense of the word or not.

Why such low use?

- Reasons for not using OER were the lack of information, their dispersion in very different platforms and repositories, their irregular quality, their inexistence in teachers' own language and the low coverage for a specific course.
- Therefore, the OER does not seem to be the out-of-the-box solution, unless there is some awareness among teachers and students. Some teachers recognized that it's very time-consuming to look for them and later adapt them for their teaching purpose.
- Teachers' information seeking behaviour and OER discoverability issues: in general, it has been observed that there is a low promotion of OER sources (specific repositories and search engines) at HEI and also a lack of capacity building to know where to find OER.
- As a result, OER should be unlikely to be considered during crisis situations if the cultural/pedagogical shift has not occurred previously with a good capacity building work.

Increase in (O)ER production, but not shared canonically

- There was evidence of educational resources being produced and made them available in the LMS or among colleagues and students.
- However, these materials were not properly incorporated, in the sense of ensuring open access to them, into an OER repository. Textbooks, sets of ppt and recorded presentations for lessons and tutorials were, alongside videos of lessons, some of the most prevalent resource teachers created.
- The volume of video and audio recordings made available to students increased significantly compared to pre-pandemic courses.

4. Takeaways for improving OER use

Collaboration, networking, support and ... policies!

- Collaboration and networking in the OER creation, sharing and use.
- Institutional policies, support, and human resources to foster OER creation and use.
- Knowledge about the availability of information sources to discover, assess and reutilize OER. The creation of new specific repositories is also proposed if there is a need in terms of discipline area, language, or other specific unavailable scope.
- Formulation of national, institutional or by discipline policies that lead to the design of overall planning about the creation, treatment, dissemination, and dissemination of OER for teaching.

Open Science, capacity building, and new approach balancing synchronic and asynchronizing learning

- Framing OER under the Open Science momentum: regarding the push for new models of academic performance evaluation and incentives, it would be very suitable and fair to reward teachers who create OER
- Capacity building: integrating the OER into the continuing education of teachers, since one of the main barriers found was the lack of training in this area.
- Raise awareness among teachers of the possibilities of flipped classroom and the incorporation of online and blended elements in face-to-face teaching as a way for stimulating the production and use of OER.

Last but not least,... Listening to build bottom-up OER use

“This is about looking for other digital materials... In fact, I had already looked for them before [the pandemic], but I hadn't managed to find them. [...] We should have more repositories of materials that are useful to us,... [the problem is that] we don't share them or we don't know how to find them... “ [BA_12]

“... if we passed the subject because of the YouTube tutorials. Not by the teacher's will, because even he didn't let you record his classes. So, you couldn't record his class to follow it as a tutorial, you couldn't do the exercise while he was doing it because you'd miss what he was doing on the screen. In the end it was, either you went with tutorials or we recorded it without him knowing and that was it. [BA_FG_1]”

“I think it's a great idea. My only concern [doing OER] is that it's not the best quality, so to speak. And then I think it would be stupid if someone uses it and then somehow disappoints and says it doesn't work properly. [...] So if it didn't cost anything, I would probably say, well, don't cry, if something doesn't work, it's free. But then I would have it. I would like to have it in such an optimal condition, which of course would require a lot of work and refinement. And that. So I don't have the time to do that now and then I wouldn't do it either.” [HI_4]

Thank you!

Questions, comments...