Teachers' use of and needs for electronic learning environment in Kumpula Campus, spring 2020

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The data consists of a convenient sample of 75 higher education teachers from Faculty of Science. The respondents filled in an online questionnaire in late May 2020 and the link was delivered by email. One follow-up reminder was sent. The questionnaire was sent to all teaching and research staff, and response rate was about 14 %.
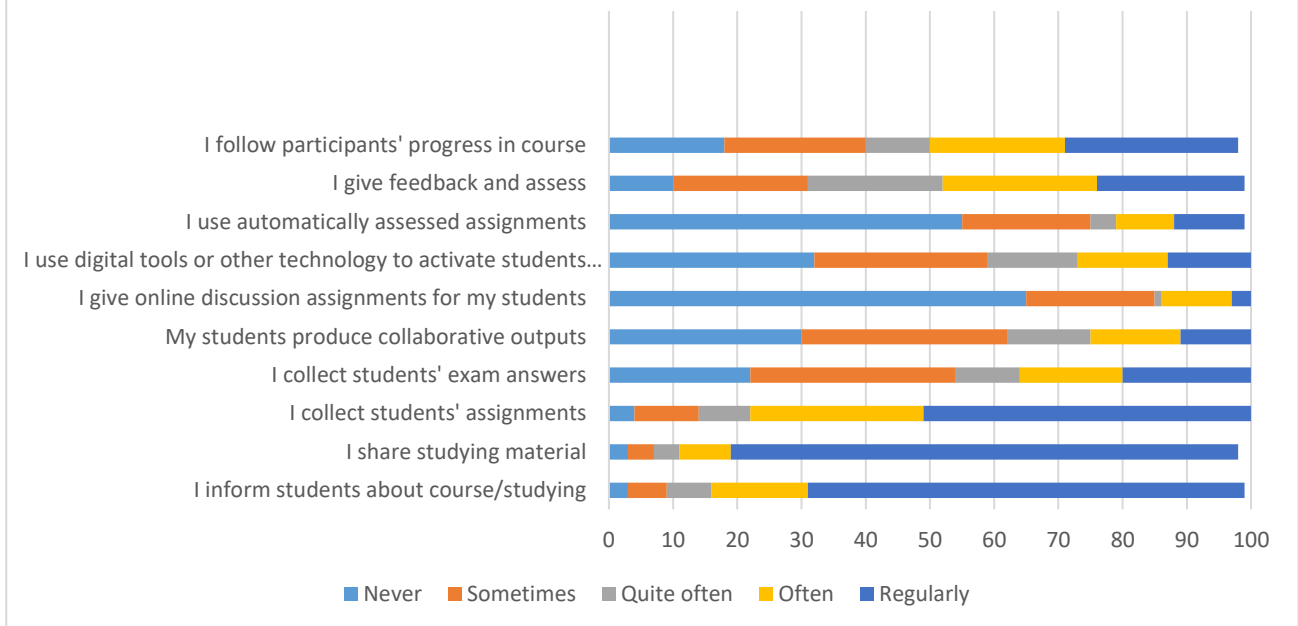
The aim of the questionnaire was to examine

1. For what pedagogical purposes did teachers use digital tools in their teaching?
2. How did the academic teachers' digital competencies develop during the early months of COVID-19 pandemic lockdown?
3. Teachers' experiences about distance teaching
4. Teachers' beliefs about distance teaching

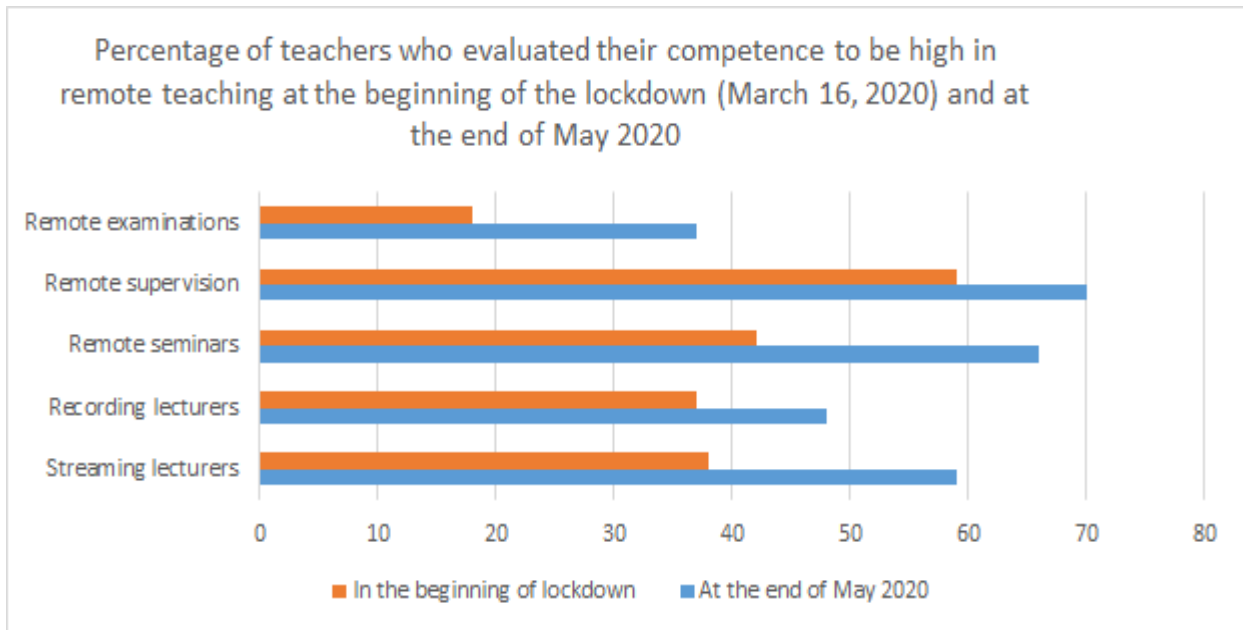Table 1. Descriptive information of the demographic variables

		Science
		n (%)
Gender	Female	24 (32 %)
	Male	48 (64 %)
	Other/missing	3 (4 %)
Age	20-30 years	4 (5 %)
	31-40 years	32 (44 %)
	41-50 years	20 (27 %)
	51-60 years	12 (16 %)
	over 61 years	6 (8 %)
Position	Full/tenure track professor	19 (25%)
	University lecturer	27 (36 %)
	University teacher/post doc	12 (16 %)
	Doc student/part-time teacher, other	17 (23 %)
Teaching experience	3 years or under	8 (11 %)
	4-10 years	28 (37 %)
	11-20 years	20 (27 %)
	over 20 years	18 (24 %)
Pedagogical training	Not at all	25 (33 %)
	1-10 credits	20 (27 %)
	11-25 credits	17 (23 %)
	26-59 credits	8 (11 %)
	60 credits study module	5 (7 %)
	more than 60 credits	-

For what purposes teachers use digital tools in teaching

	Never	Sometimes	Quite often	Often	Regularly

Categories (top to bottom):
- I follow participants' progress in course
- I give feedback and assess
- I use automatically assessed assignments
- I use digital tools or other technology to activate students…
- I give online discussion assignments for my students
- My students produce collaborative outputs
- I collect students' exam answers
- I collect students' assignments
- I share studying material
- I inform students about course/studying

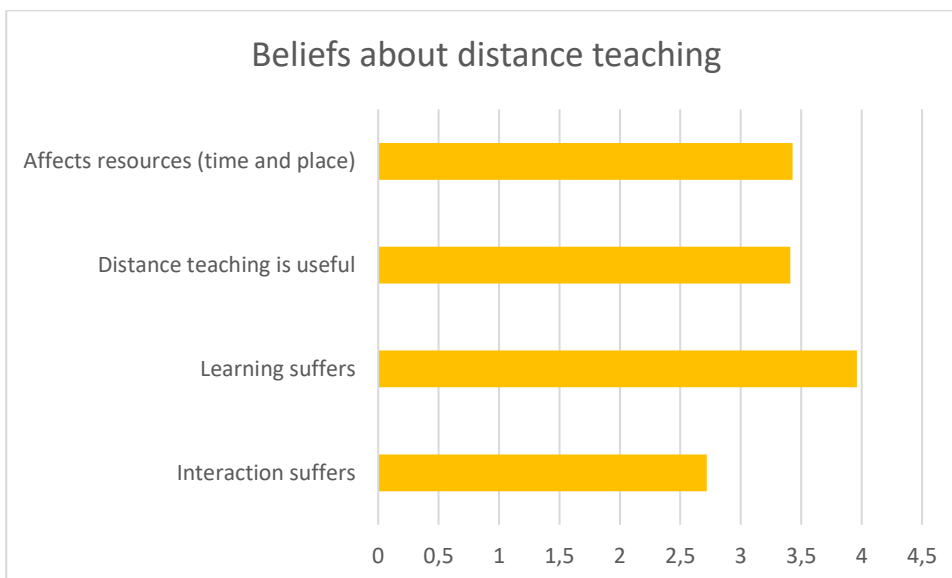## Competence in distance teaching

The competence in distance teaching was measured by asking the respondents to evaluate their level of competence in distance teaching in the beginning of lockdown in March 16th, 2020. There were 12 items, such as streaming distance lectures, recoding video lecture, conducting a distance seminar and distance examinations measured by a seven-point scale (0=no competence; 1= weak; 2=passable; 3=satisfactory; 4=good; 5=excellent; 6=does not concern me). After this, the respondents were asked to evaluate their level of competence in distance teaching with the same items at the moment of answering the questionnaire (in late May, 2020). The answers of "does not concern me" were recoded as missing values. The items for which over 70 % of the respondents reported their competence were selected for the further analysis: streaming lectures, recording lectures, remote seminars, remote supervision of dissertations and remote examinations.
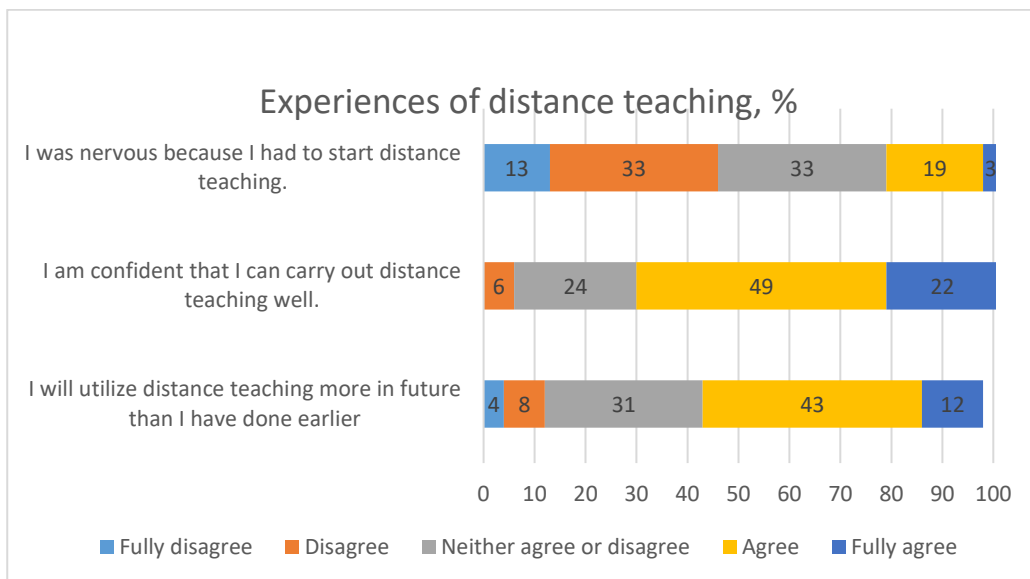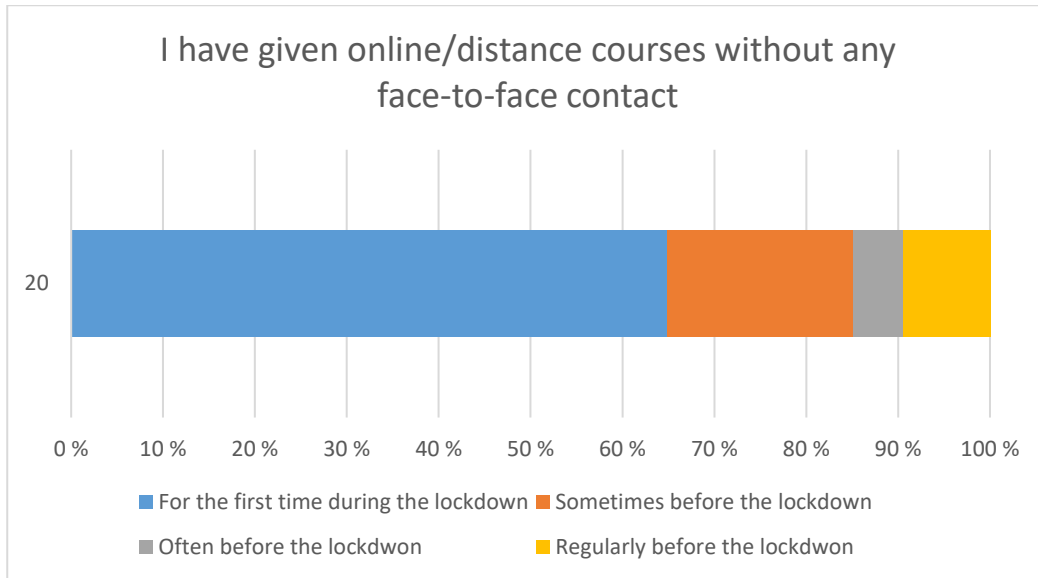
Percentage of teachers who evaluated their competence to be high in remote teaching at the beginning of the lockdown (March 16, 2020) and at the end of May 2020

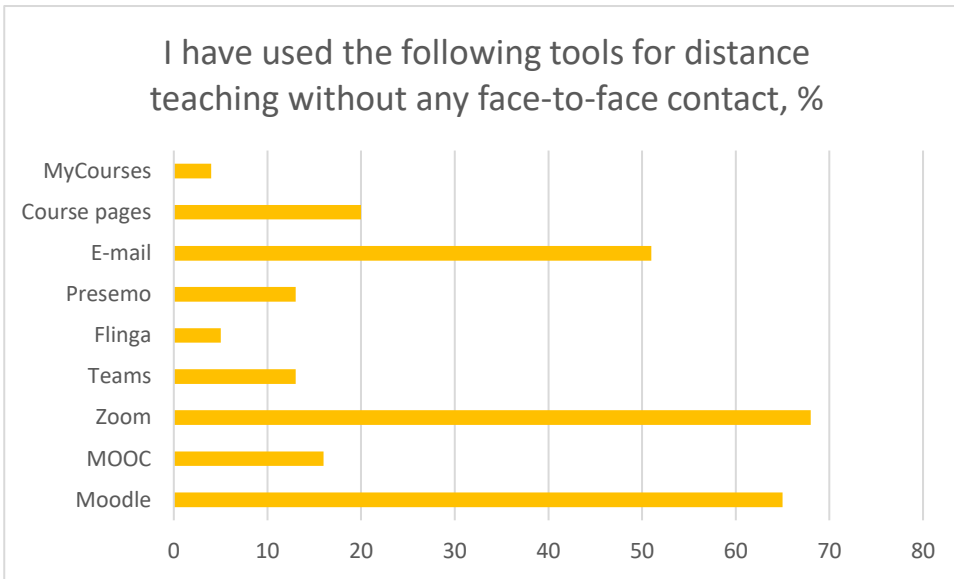## Teachers' beliefs about distance teaching

Beliefs about distance teaching scale was designed to represent both intrinsic (beliefs about effective teaching strategies and students' learning) and extrinsic beliefs (resources). There were 13 items representing different aspects of technology use, such as "My students did equally well in distance exams as they did in classroom exams" (reversed), "Distance teaching weakens teacher-student interaction" and "Distance teaching frees a teacher's resources, because it is not place-bound". They were measured on a five-point scale (1=fully disagree; 5=fully agree).

Three factors were extracted: Learning suffers in distance teaching (four items), interaction suffers in distance teaching (two items), positive opinions about distance teaching (five items) and distance teaching affects the resources (two items).
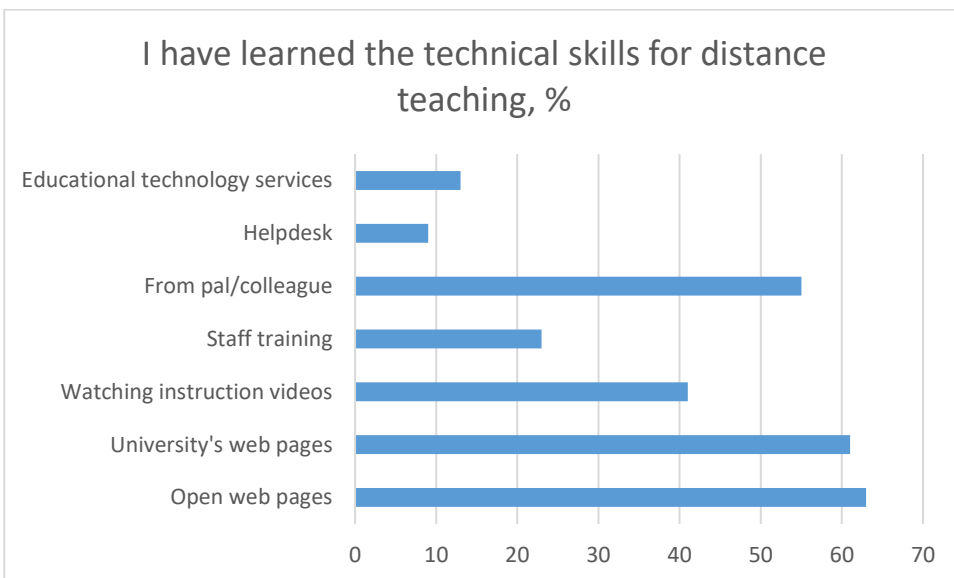

Beliefs about distance teaching

Experiences of distance teaching

I have given online/distance courses without any face-to-face contact

	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %

20

- ■ For the first time during the lockdown
- ■ Sometimes before the lockdown
- ■ Often before the lockdwon
- ■ Regularly before the lockdwon

Experiences of distance teaching, %

I was nervous because I had to start distance teaching.
13 | 33 | 33 | 19 | 3

I am confident that I can carry out distance teaching well.
6 | 24 | 49 | 22

I will utilize distance teaching more in future than I have done earlier
4 | 8 | 31 | 43 | 12

	0	10	20	30	40	50	60	70	80	90	100

- ■ Fully disagree
- ■ Disagree
- ■ Neither agree or disagree
- ■ Agree
- ■ Fully agree

I have used the following tools for distance teaching without any face-to-face contact, %

Note: The respondents could choose several tools

I have learned the technical skills for distance teaching, %

Note: the respondents could choose several options