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WORKLOAD OF TEACHERS DURING THE COVID-19 PANDEMIC

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1 Introduction

This study provides an insight into the 3rd online workshop of the IVF project No. 22110433 „Does well-being matter? Higher education teachers during Covid-19 pandemic” organized by the Institute for the Development of Enterprises, Corvinus University of Budapest, Budapest, Hungary. The workshop took place on 26th November 2021 by using the Microsoft Teams platform. This study is the third one from a set of texts within the project. Its main goal is to summarize the main ideas that were presented at the workshop focusing mainly on the impacts of the Covid pandemic on the teachers’ workload with special attention paid to those who are involved in lab exercises. There were four presentations given by the selected experts from the Corvinus University of Budapest. The list of presentations was as follows:

- [1] Judit Sass – Lídia Vinczéné Fekete: Challenges and resources during online education
- [2] László Kacsirek: Impacts of COVID on Higher Education: Experience of a Programme Director
- [3] Rita Ósz: How professional competencies and communication habits changed as a result of the pandemic
- [4] Anita Kolnhofer-Derecskei: Teachers’ Wellbeing Down Under in an „Upside Down World” during the COVID 19 restrictions

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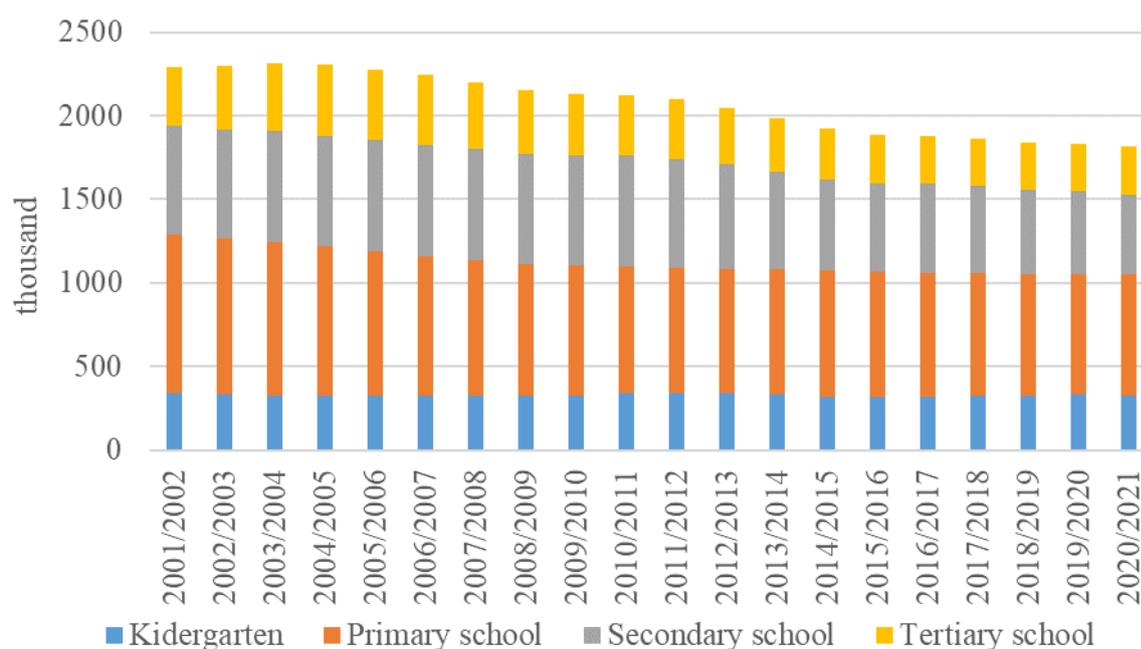
2 The Hungarian education system

The Hungarian system has four levels building on one another. Compulsory education starts with kindergarten followed by primary school. Attendance is compulsory until the age of sixteen. Secondary schools (grammar school, technical school, apprenticeship) are voluntary, as well as tertiary schools (college and university).

2.1. General overview of the Hungarian education system

The major indicators of the education system are the number of “students” in the system and their distribution. Figure 1. shows the evolution of these indicators between 2001/2002 and 2020/2021. Most of the children attend primary schools followed by secondary schools.

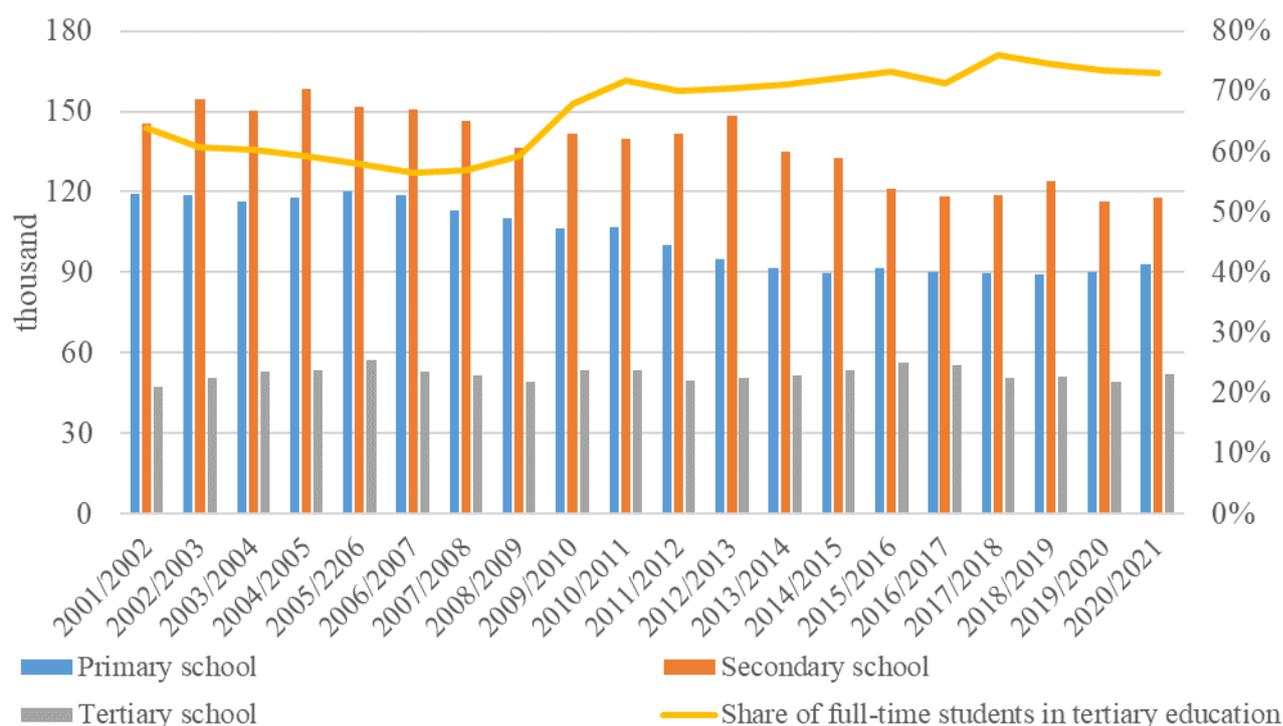
Figure 1. Number of children by the type of education



Source: Author’s composition based on HCSO (2021a)

It should also be mentioned that the number of children in the education system is continuously decreasing over the last 21 years. It is worth analysing the number of graduates. Figure 2. gives an overview of that in the same period. The number of primary and secondary school students decreased the most, while the number of tertiary school students remained stable. It should also be mentioned that the share of full-time students increased remarkably from 2001/2002 to 2020/2021.

Figure 2. Number and share of graduates



Source: Author’s composition based on HCSO (2021b)

Another indicator of an education system is the number of students per teacher. Lower and decreasing values are better. According to table 1., these ratios decreased both in primary and secondary education; however, this was much larger for the latter, especially in Central



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Hungary where this decreased from 14.6 to 10.3 from 2001/2002 to 2020/2021. The table also shows that there are no significant regional differences in Hungary, all the analyzed values are around 10.0.

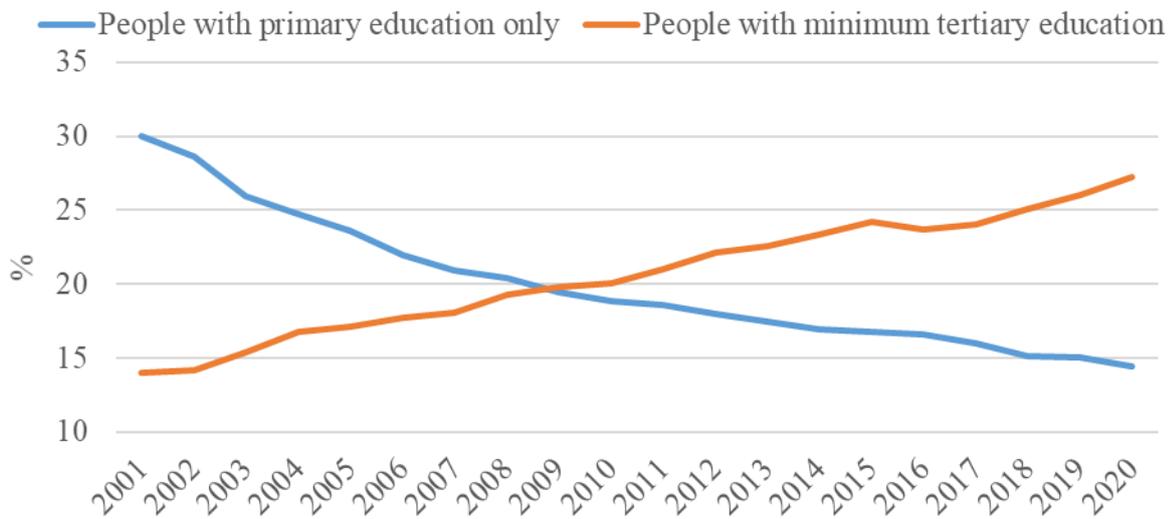
Table 1. Students per teacher in Hungary by large regions

	Central Hungary	Transdanubia	Great Plain and North
primary education			
2001/2002	10.0	10.2	10.9
2011/2012	10.0	10.0	10.8
2020/2021	9.9	9.4	9.7
secondary education			
2001/2002	14.6	12.7	12.2
2011/2012	12.6	12.6	11.9
2020/2021	10.3	10.1	10.1

Source: Author's composition based on HCSO (2021c)

The most important indicator of the success of the education system is the share of people with primary education only, as well as the share of people with college or university degree. Figure 3. shows the evolution of these shares from 2001 to 2020. A positive trend can be observed: the share of people with maximum primary education is halved, while the share of people with tertiary education is almost doubled. However, both should be further emphasized. The higher share of participation in tertiary education, as well as the higher share of graduation, is one of the national education objectives (HG, 2016). Proper knowledge becomes more valuable in the eve of digitalization, smart technologies, and big data systems of this century.

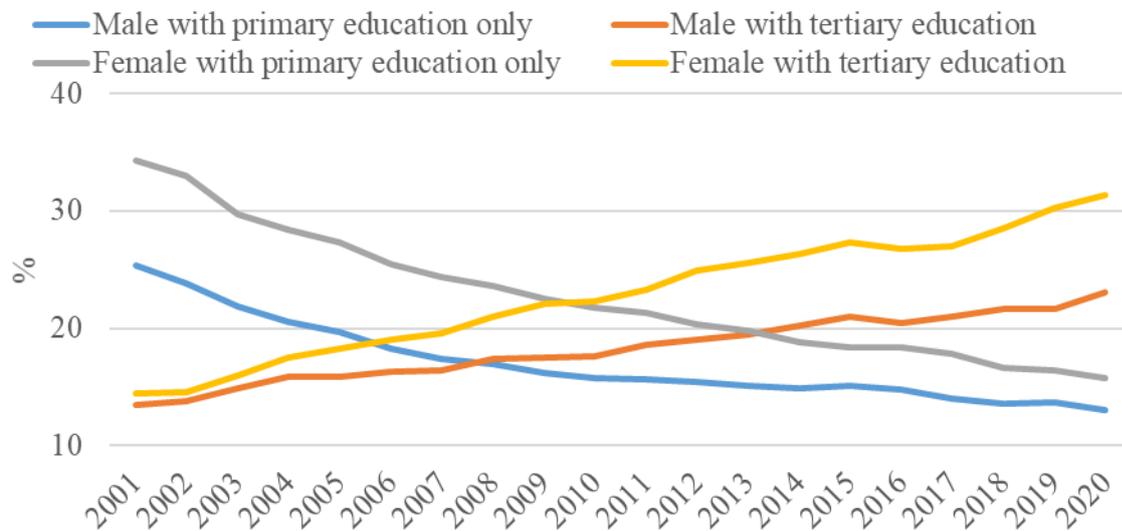
Figure 3. Distribution of the 25–64 year-old population by school qualification



Source: Author’s composition based on HCSO (2021d)

Different patterns can be seen if these values are divided by genders (Figure 4.).

Figure 4. Distribution of the 25–64 year-old population by school qualification and gender



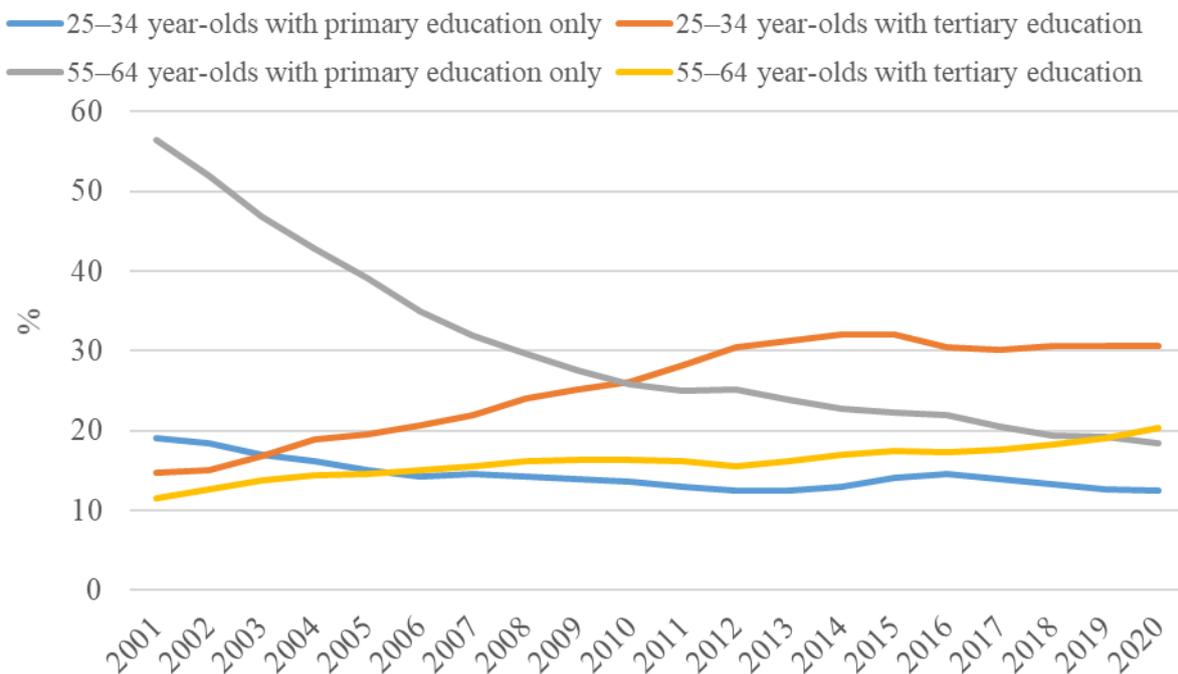
Source: Author’s composition based on HCSO (2021d)

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The share of female with primary education only is significantly higher than male's share; however, the gap between those two lines became narrower. On the other hand, higher share of females has college or university in comparison with males and this gap became wider.

Regarding age, primary education only is more common for elder people, although its share dropped remarkably over the analyzed 20 years from 56.4 to 18.4. Furthermore, they have lower values for tertiary education, as well. As it can be seen in Figure 5., younger generation is more educated, the share of people with higher education is over 30% of the 25–34 year-old population.

Figure 5. Characteristics of the 25–34 and 55–64 year-old population by school qualification

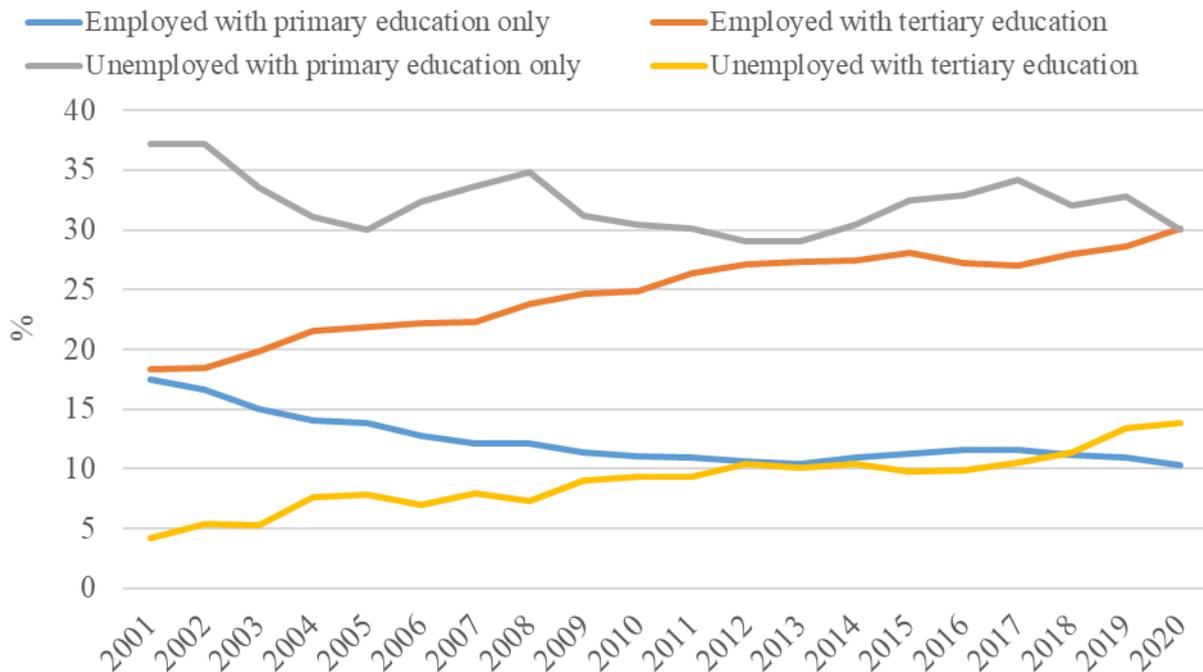


Source: Author's composition based on HCSO (2021d)

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Finally, education does matter when it comes to employment as shown in Figure 6. Having higher education decreases the chances of being unemployed and increases the chances of employment significantly.

Figure 6. Distribution of the 25–64 year-old population by school qualification and employment status

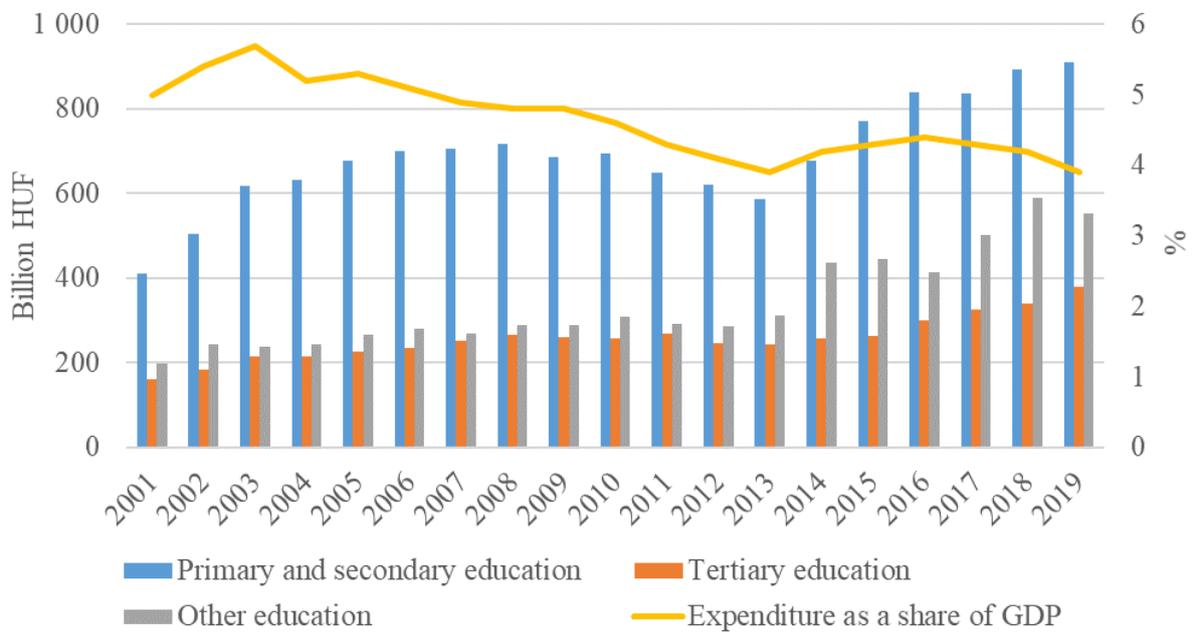


Source: Author’s composition based on HCSO (2021d)

Therefore, spending on education is a key to nations’ competitiveness. According to Figure 7., Hungary spent more on every level of education, especially on other education (mostly kindergarten). All these spendings became more than two times more, they were 2.77 times more for other education, 2.35 times more for tertiary education, and 2.22 times more for primary and secondary education. However, this growth was smaller compared to the GDP growth because the total expenditure as a share of GDP decreased from 5.0% (2001) to 3.9%

(2019). As this expenditure is measured at current prices, part of this growth was taken by inflation.

Figure 7. Hungarian education expenditure (billion HUF at current prices)



Source: Author's composition based on HCSO (2021e)

State support could be the most significant element of the financing portfolio of the higher education institutions; however, they may have other revenues (ICNL, 2006):

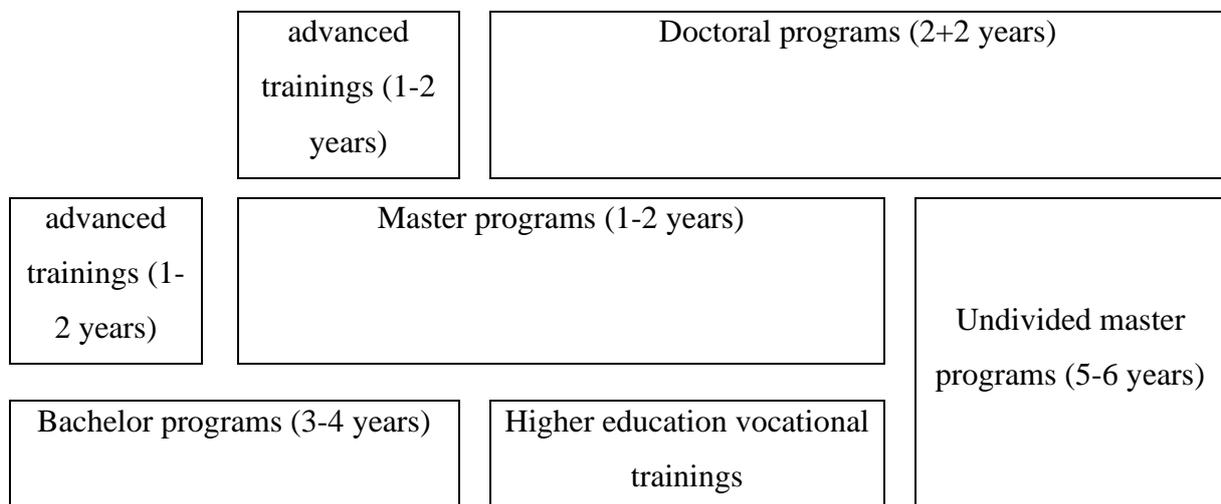
- fees for services provided (e.g. tuition and other fees, different charges)
- revenues from entrepreneurial activities (scientific and applied research, expert studies, dedicated parts of project budgets, revenues from conference hosting/organization)
- donations and other incomes.

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2.1. Characteristics of higher education

The Hungarian higher education system provides different opportunities for the students. Figure 8. gives an overview of the available programs and their hierarchy.

Figure 8. Hierarchy of the Hungarian higher education system



Source: Authors' composition based on Derényi (2020)

Some of the higher education institutions provide different types of vocational training, however, completion of them do not result in a university degree. Bachelor programs last for 3 to 4 years, longer ones often include a mandatory internship.

The Hungarian higher education system is under the supervision of the Ministry of Human Capacities. The authority concerned is the Office for Education, while accreditation processes (programs and institutions) are managed by the Hungarian Accreditation Committee. Higher education institutions have generally three key leaders: the rector, the chancellor, and the president.

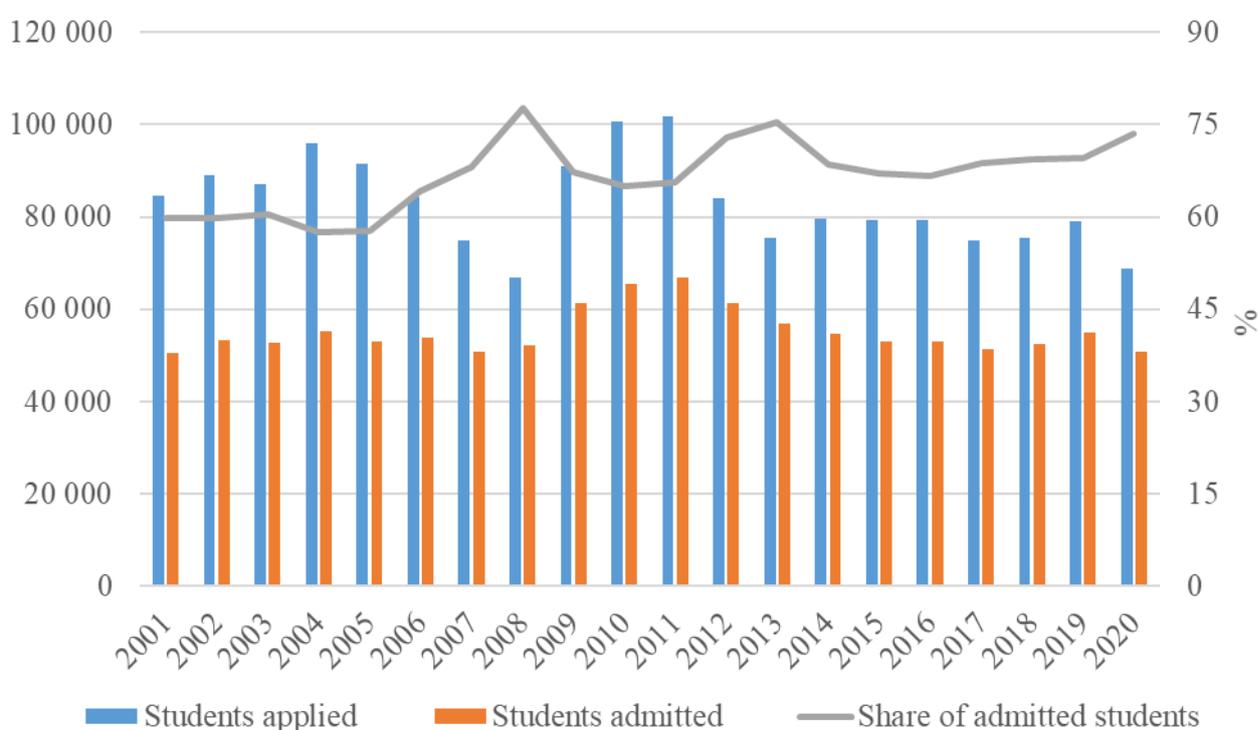
There is competition for the available programs and places, especially in the case of major institutions with good reputations. The connection between the students applied and

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admitted is shown in Figure 9. The share of admitted students increased remarkably in the analyzed period; however, this was mostly caused by the lower number of students. Data refers only to full-time students as part-time students pay for their education.

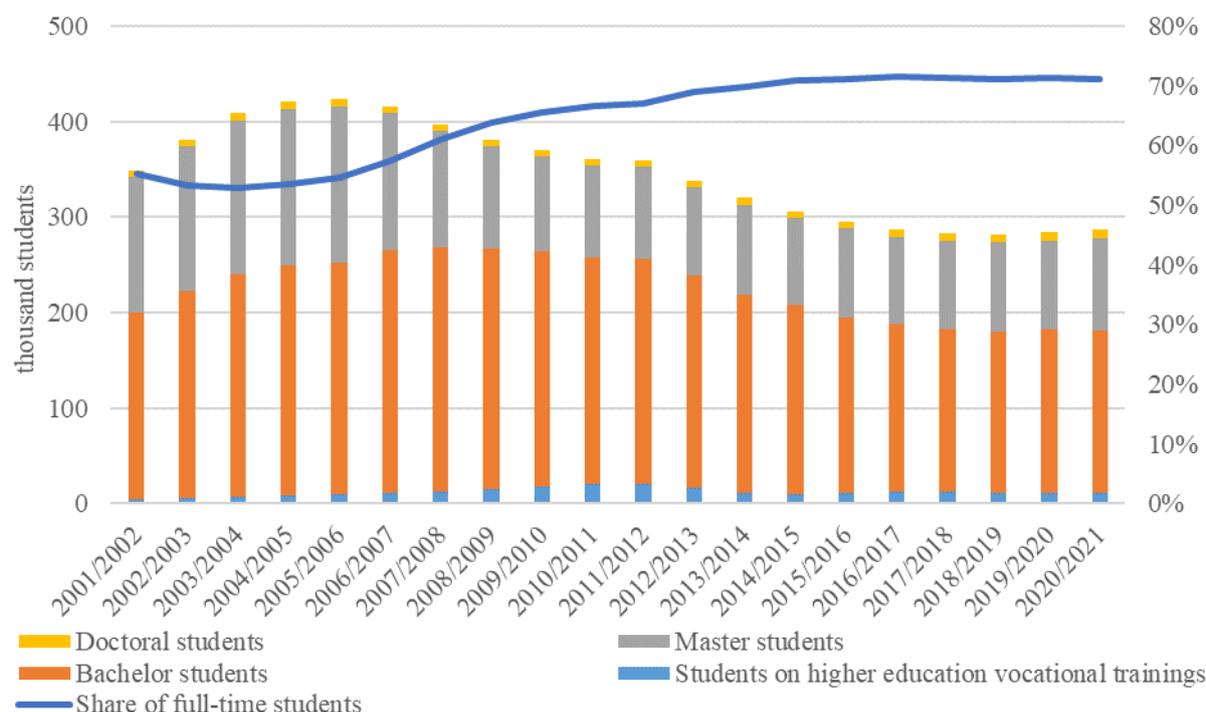
Figure 9. Number of applicants and admissions to full-time form of universities and colleges



Source: Author's composition based on HCSO (2021f)

Most of the students are on a bachelor program; however, their number decreased by 13% during the analyzed period (Figure 10.). Due mostly to the Bologna system, the number of master students decreased by one third. Although there are 44% more doctoral students, their share was only 3.53% in 2020/2021. The figure below also shows the increasing share of full-time students.

Figure 10. Characteristics of the higher education



Source: Author's composition based on HCSO (2021g)

Most of the Hungarian higher education institutions are universities financed by the state (foundation financed universities are included). Table 2 also shows that most of the colleges are operated by different churches. Private institutions have a marginal share.

Table 2. Breakdown of the Hungarian higher education institutions, 2020

		University	University of applied sciences	College	Total
Public		22*	5	3	30
Non-public	private	1	4	3	8
	church	6	1	19	26
Total		29	10	25	64

Source: Authors' composition based on FIR (2021)

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The major difference between universities and colleges is their size: universities are larger in terms of the number of teachers, students, and non-academic employees. Universities offer more programs including bachelor, master, and doctoral levels. A continuous concentration of the institutions can also be witnessed, some of the colleges formed universities and/or some universities integrated institutions. Moreover, larger institutions offer learning opportunities in a wider range of disciplines.

There are large regional differences in the higher education sector. Most of the institutions, therefore teachers and students, are in Budapest. The dominance of Budapest has become even greater (Table 3.).

Table 3. Number of tertiary institutions, teachers, and students in Hungary by large regions, 2020

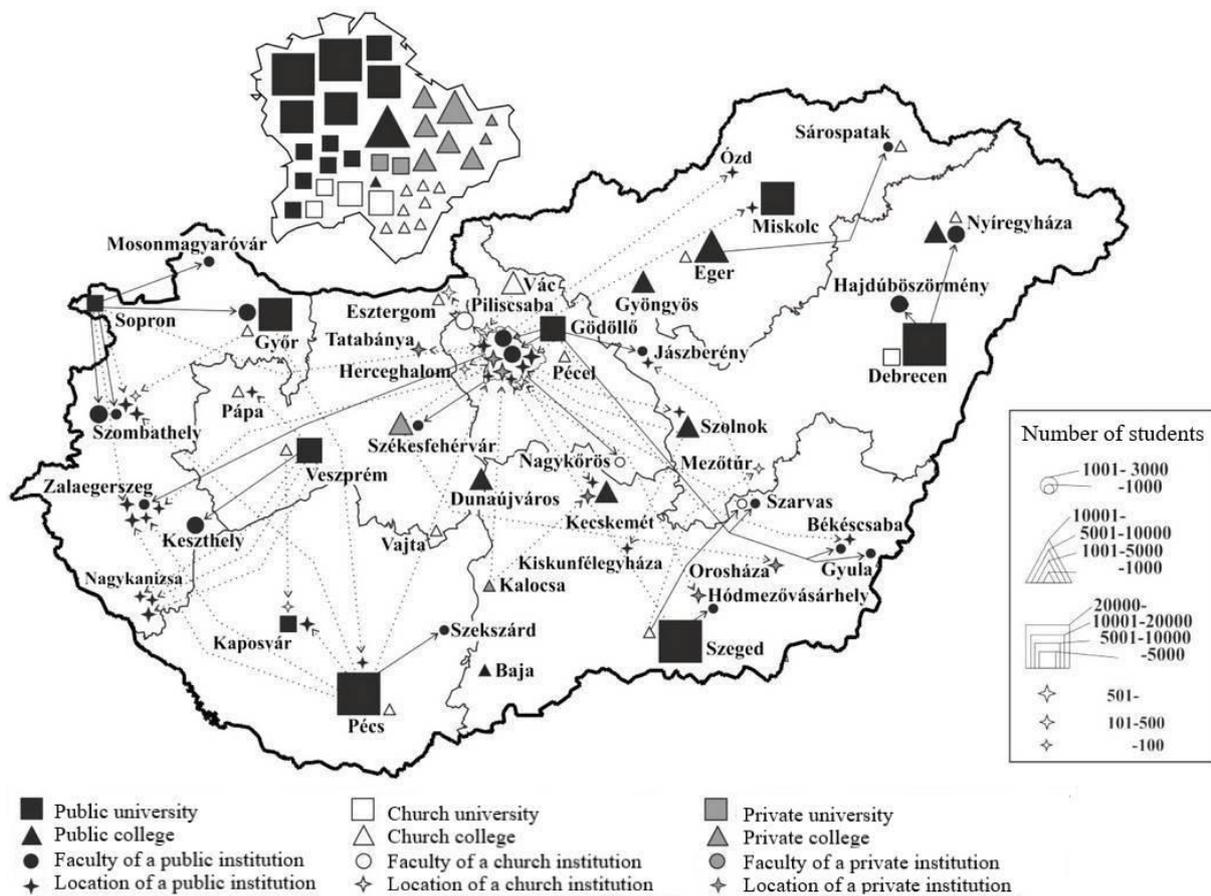
	Central Hungary	of which Budapest	Transdanubia	Great Plain and North	Total
Number of institutions					
2001/2002	34	31	16	15	65
2011/2012	39	36	14	15	68
2020/2021	38	34	11	13	62
Number of teachers					
2001/2002	11,709	10,389	4,945	6,209	22,863
2011/2012	10,842	9,839	4,507	6,008	21,357
2020/2021	13,057	11,993	4,051	6,403	23,511
Number of full-time students					
2001/2002	94,285	83,882	43,317	55,372	192,974
2011/2012	122,862	112,364	48,857	69,895	241,614
2020/2021	120,000	112,082	30,679	54,032	204,711

Source: Author's composition based on HCSO (2021h)

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Budapest is the capital of Hungary, and also the centre of education. Most of the higher education institutions can be found in Budapest (Figure 11.). Besides Budapest, mostly the other large cities have universities or colleges.

Figure 11. Geographical location of the Hungarian higher education institutions



Source: Authors' adaptation from HG (2016)

The Hungarian government published its vision for the future of Hungarian higher education by 2030 (HG, 2016). This vision has two elements: people and institutions. Students will get better usable knowledge in a differentiated education according to their abilities. Teachers will be better prepared, both professionally and methodologically. This vision is based



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on the personal contacts between teachers and students. There will be much better cooperation between the different institutions. These institutions will be specialized with distinct education profiles.

The decreasing number of students in higher education is not a unique Hungarian characteristic. The other Visegrad Four countries experienced the same (Table 3.).

Table 3. Number and share of students in higher education in the EU

Country	Total number of students in 2013 (1,000)	Total number of students in 2019 (1,000)	Students as a share of total population 2013	Students as a share of total population 2019
Austria	422.78	423.05	4.99	4.76
Belgium	488.49	519.21	4.38	4.52
Bulgaria	283.96	229.46	3.91	3.29
Croatia	164.62	163.87	3.87	4.03
Cyprus	31.97	50.21	3.71	5.69
Czechia	427.44	319.34	4.07	2.99
Denmark	291.15	308.57	5.19	5.31
Estonia	64.81	45.48	4.92	3.43
Finland	309.01	295.45	5.68	5.35
France	2,338.14	2,685.41	3.55	3.99
Germany	2,780.01	3,296.25	3.45	3.97
Greece	658.47	794.11	6.01	7.41
Hungary	359.04	281.46	3.63	2.88
Ireland*	199.43	232.51	4.31	4.71
Italy	1,872.69	1,937.76	3.11	3.24
Latvia	94.47	80.36	4.69	4.20
Lithuania	159.70	111.77	5.40	4.00



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Country	Total number of students in 2013 (1,000)	Total number of students in 2019 (1,000)	Students as a share of total population 2013	Students as a share of total population 2019
Luxembourg	6.62	7.10	1.22	1.15
Malta	12.57	16.07	2.95	3.19
Netherlands*	674.75	889.51	4.02	5.16
Poland*	1,902.72	1,430.98	5.00	3.77
Portugal	360.82	368.18	3.45	3.58
Romania*	618.16	533.75	3.09	2.76
Slovakia	209.54	140.81	3.87	2.58
Slovenia	97.71	75.99	4.74	3.64
Spain	1,969.41	2,083.98	4.22	4.42
Sweden	436.60	432.23	4.55	4.21

* Estimated data.

Source: Author's composition based on HCSO (2021i)

3 Lessons learned from the workshop

The first presentation gave an overview of the challenges and resources during online education. The Covid-19 pandemic resulted in a significant decline in mental health globally. This had many negative impacts on both family and work levels such as isolation, reduced contact, reduced income (family) and social isolation, prolonged working hours, pauses in a carrier. A UK study pointed out that 60% of the respondents experienced caseness levels of psychological distress (Wray and Kinman, 2021). Technological barriers also arose in many cases causing lower effectiveness of teaching. Moreover, not everything works online, and teachers should be aware of this limitation. However, the Covid-19 also provided many new

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opportunities and teaching methods. In order to get information about these issues, the authors applied an online questionnaire about the perceived teacher competencies and achievement of pedagogical objectives, experiences of online teaching, and good practices. This questionnaire was repeated in 2021 on a similar sample. This information was enriched by deep interviews with counsellors providing psychological and mental health consultancy for Corvinus staff. Its topics were:

- Specific challenges experienced by teachers during the pandemic
- Reasons for requesting support
- Resources explored by teachers
- Strategies recommended by the counsellors.

In distance education, student involvement turned out to be one of the most important issues. This contains their activities (motivation, quality work, and consultation), participation, and feedback (either positive or negative). While successful online solutions and experiences were important in 2020, immediacy arose (smaller groups, the camera on, etc.) in 2021 as a relevant factor of satisfaction. The major challenges on distance education were related to:

- difficulties with shifting from on-site to online teaching
- proper communication
- motivating students during the online lectures, and
- lack of presence.

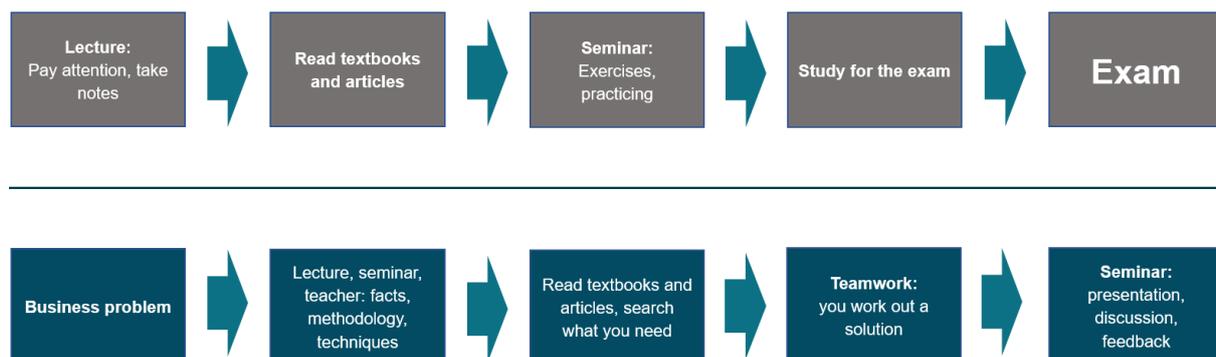
The first wave of the pandemic resulted in insecurity and caused anxiety according to the counsellors. The second and third waves led to the loss of connection with colleagues and students, and depersonalization. This was even amplified by the strict lockdown measures. This made maintaining the balance between life and work when those two places were one that time. Flexibility and time management became crucial. On the other hand, online teaching provided opportunities for learning new teaching methods and inviting external experts.

The next presentation showed the Impacts of COVID on Higher Education from a Programme Director's perspective. The Covid-19 pandemic caused greater challenges for those

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who use gamification as a teaching methodology. This is closely related to the way of teaching whether that is traditional or problem-based. Figure 12. summarizes the major elements of these two teaching methods. The first concentrates on learning and exam, whole the second is problem-related with special attention paid to teamwork which is the way of solving the initial business problem.

Figure 12. Characteristics of the traditional (top) and problem-based (bottom) teaching



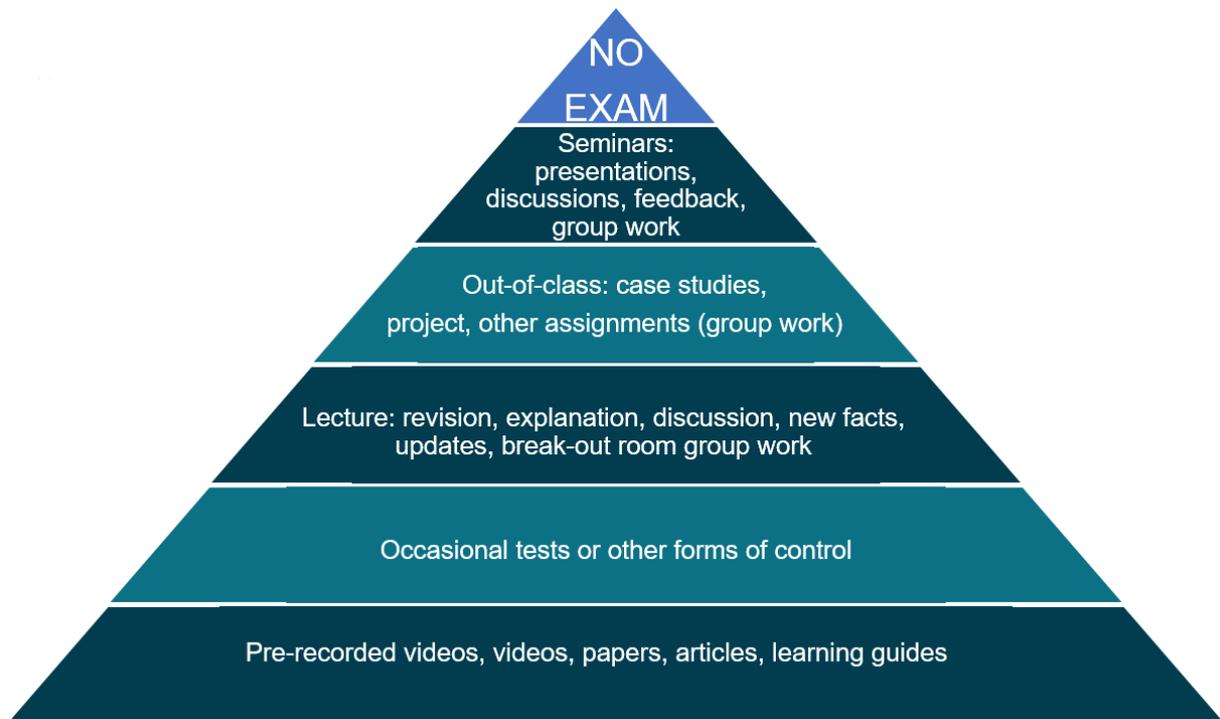
Source: Kacsirek's presentation

In line with the first presentation, it was emphasized that time flexibility became a priority in order to successfully balance between family and work. However, this was required from the students as well. They needed to increase their efficiency and deal with the even larger responsibility caused by the pandemic. The introduction of a practical tool, the so-called learning pyramid helped a lot and increased students' satisfaction. Figure 13. displays this method. This means a higher workload for both teachers and students during the preexamination period including pre-recorded and pre-arranged materials (teacher), and out-of-class work and group work (students). The major difference can be seen on the top of the pyramid: no exam. This provides enough motivation for the student to accept the larger workload and better for the teacher as they can grade the students even before the beginning examination period.

Figure 13. The learning pyramid for the Global Economy and International Trade

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Source: Kacsirek's presentation

Digitalization and time management were equally challenging for teachers and students. However, motivated students performed even better compared to the pre-covid period.

The presentation titled “How professional competencies and communication habits changed as a result of the pandemic” presented the results of three surveys with different stakeholders, i.e. enterprises (future employers), secondary school students (future students in higher education), and actual students. It became evident that social platforms are used for learning, as well as navigating the online space requires digital literacy. Students are open-minded for blended learning. Similarly to the first two presentations, time management popped up again as an area needed for improvements. The pandemic resulted in more flexible working, changed communication habits, and different work organizations.

It was instructive to see the significant differences between the expectations of future employees on their workplace and the expectations of employers on employees (Figure 14.).

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The most common characteristics of the secondary school survey were money, career, and creativity, while the employers' survey was dominated by problem-solving, decision-making, teamwork, and loyalty.

Figure 14. Characteristics of the workplace and future employee



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Source: Ősz's presentation

Flexibility and resilience became more important at both the employer and employee levels. This requires closer cooperation between higher education and enterprises. As it was highlighted earlier, new forms of employment, e.g. home office or teleworking, became more common due to the Covid19 pandemic.

The last presentation was about the Teachers' Wellbeing Down Under in an „Upside Down World” during the COVID 19 restrictions. It provided an insight into one of the most effective covid control systems introduced in Australia. This included early introduced lockdown measures with strict restrictions. Higher education has suffered one of the biggest losses in the country because of the high number of foreign, mostly Chinese students. All this was further enhanced by removal or scaling back courses. More internationally oriented universities experienced larger reductions in international student revenues. Besides students, teachers were also highly impacted by the pandemic. Their wellbeing has five different dimensions (WCLA, 2020):

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- social wellbeing is related to personal connections. Stronger social relationships make people more resistant to the negative impacts of the Covid-19.
- intellectual wellbeing is closely related to active use of brain
- physical wellbeing is related to physical activities. Being physically active increases the resistance of the human body against diseases.
- psychological wellbeing means being aware of e.g. of sensations, thoughts and feelings
- while collective wellbeing involves helping others.

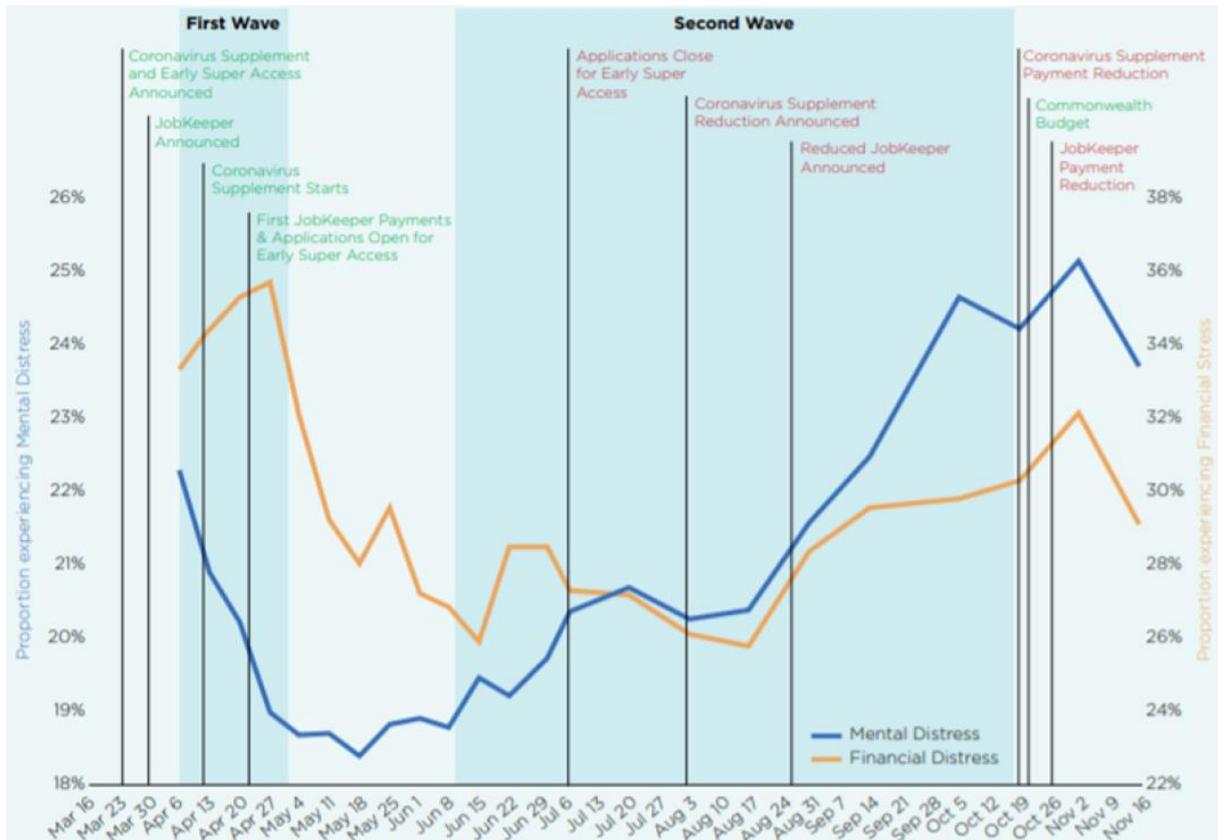
Due to the COVID-19 pandemic, Australian universities switched to remote schooling which caused significant additional workplace stress. It should be kept in mind that most of the teachers are parents as well which causes even more stress. Different professional development programs aiming to increase teachers' resilience and autonomy can contribute to their wellbeing. It has crucial importance as teachers are the core assets of education. The COVID-19 pandemic can impact mental health in various ways, such as (Holmes et al., 2020):

- direct biological effects (life-threatening illness)
- fear of infection
- social isolation and loneliness
- unemployment or job loss
- financial insecurity.

Besides mental issues, the pandemic also caused financial stress. The latter was even larger during the first wave in Australia, while the former increased rapidly during the second wave (Figure 15.).

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Figure 15. Share of Australians facing mental distress and financial stress



Source: Broadway et al. (2020), p.15.

4 Conclusions

The COVID-19 pandemic has affected many parts of our lives. These impacts could be positive (higher flexibility, working from home, use of new tools and platforms) or negative (blurring the borders of workplace and home, new challenges such as IT skills, proper devices, and stable Internet). Flexibility and resilience, as well as better time management, are the key issues at both teacher and student levels. Digitalization has permanently become part of our lives. Teachers’ wellbeing depends on many factors that need to be carefully managed.



Supporting higher education teachers in this process is extremely important as lower wellbeing has a direct negative impact on their teaching outcome.

In general, especially during the initial period of the pandemic, the workload of university teachers has increased significantly as they needed to use new methods and platforms, and to transform their educational activities to the online space. Some good practices show that extra workload from both students and teachers might have led to a win-win situation when there was no exam at the end of the course.

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