

PANDEMIC AND MISPROPORTIONED AGE STRUCTURE OF ACADEMIC STAFF IN UKRAINE: THREATENS AND OPPORTUNITIES

Natalia Korovina¹ 

DOI: <https://doi.org/10.31410/ERAZ.2020.83>

Abstract: *Pandemic crisis has inevitably affected all areas of human life, education and science are no exception. One of the typical characteristics of these sectors in emerging markets is a misproportioned age structure of scientific and educational staff. The analysis covers the overall higher education system. Considering senior employees investigation shows that they are generally more qualified, more experienced, with more achievements. As it is known present pandemic threatens primarily older people. The purpose of this paper is to study the possible influence of pandemic threats on educational systems due to real and potential rapid change in working staff. The findings of this work are expected to raise awareness about the unsolved task of the high-grade transfer of experience within academic staff. It is also shown some possible steps to approach this important goal.*

Keywords: *Transfer of academic experience, Human capital, Emerging markets.*

1. INTRODUCTION

The COVID-19 pandemic quarantine restrictions have tightened the challenges facing higher education in whole world, generating many problems, and Ukraine is not an exception. Among the major problems there are two key issues: first of all, the possibility of studying at universities for all students in absolutely all disciplines through exclusively distance learning; secondly, the possibility of providing high-quality distance learning, at least approximately comparable to the training that students traditionally obtain. Certainly, there are many other issues: financial, technical and time resources, methodological and methodical, personnel, regulatory, information security. At first glance, it seems that quarantine restrictions have caused these problems. But in fact, it only manifested and actualized the tasks that should have been solved long ago.

Discussions about the need to develop online education have been going on for many years. Some universities have purchased and began to deploy educational online portals, instruct and stimulate teachers, develop courses for distance learning. The technologies were quite complicated in both development and application, the direction was growing slowly. And when the real test came all the flaws and shortcomings of these systems crawled out. Still we all realize that the Ukrainian education system needs radical changes, and now it is the time to do them. Those tasks that are solved due to quarantine in the future will help to solve a number of tasks that have long been voiced as a direction of reforming domestic education, namely: to make education more flexible, inclusive, digitalized, accessible, to provide a more individual approach to learning and personal development, to provide skills of modern technologies, to increase independence in learning and to instill the skill of continuity in learning. These are changes that have been expected for a long time, and quarantine only helped to understand that they are urgent and there is absolutely no alternative to their objectification.

¹ V.N. Karazin Kharkiv National University, Faculty of Economics, 4 Svobody Sq., Kharkiv, 61022, Ukraine

2. MISPROPORTIONED AGE STRUCTURE OF ACADEMIC PERSONNEL

Pandemic crisis has inevitably affected education in many ways, but in our paper we turn to only two facts that are interconnected: the translation of the entire educational process into a distance form and a high proportion of highly qualified academic staff over 60 years old that is in the main risk group due to COVID-19. We should mention, that if in developed countries the risks associated with COVID-19 concern people over 70, in countries with significantly weaker economies, and therefore weaker demographics and health care system, people over 60 are already at risk. Therefore, on one hand some specific difficulties appear as for the work of universities personnel over 60 years old due to total distance learning, and on another hand even if they allow classroom work next academic year, it's still reasonable to isolate the cadres of the older generation, reducing their presence in universities as much as possible.

Most states face similar problems. But for emerging markets including Ukraine it really becomes a challenge because modern academic staff of the universities in these countries has a misproportioned age structure. For a long time, the tendency of rising the age of the so-called average scientific and pedagogical worker who had a degree not only persisted, but also increased. In 2014, according to Zhilyaev (2015), the largest percentage - 52.27% - of doctors of science working in higher education institutions were over 60 years old and another 30.54% were in the category of 51-60 years, also 24.6% of candidates of science were over 60 years (p. 34). There was some slowdown of aging of the teaching staff due to new Education Act in 2015, but still a share of teachers of retirement age is rather high today. If we take number of researchers involved in Research & Development in 2018, according to Kuznetsova (2019), employees over the age of 60 took close to 30%, and researchers who had the degree of Doctor of Science and are over the age of 60 accounted for 58,10% (p. 38, 40). So, aging mostly concerns doctors of science and heads of scientific and educational divisions.

The example of our university shows that the trend is the same. Due to Bakirov (2020), if we take for the calculation full-time teaching staff, we can see, that more than 20% of them are older than 60 (p. 64). And situation within management personnel can be clearly understood based on the Table 1 (p. 64-65).

Table 1. Heads of faculties and departments in V.N. Karazin Kharkiv National University

	Management staff	2018 year		2019 year	
		quantity	%	quantity	%
1	Deans, directors of institutes	23	100	23	100
	Among them				
	Doctors of Sciences, Professors	15	65,2	15	65,2
	Candidates of Sciences, Associate Professors	8	34,7	8	34,7
	The age of 50 - 59 years	8	34,7	6	26,0
	The age over 60 years	10	43,4	10	43,4
2	Heads of departments	126	100	128	100
	Among them				
	Doctors of Sciences, Professors	89	70,6	90	70,3
	Candidates of Sciences, Associate Professors	37	29,3	38	29,6
	The age of 50 - 59 years	28	22,2	27	21,0
	The age over 60 years	67	53,1	72	56,2

Source: Bakirov, 2020

So, for Ukraine as an emerging market, the problems of academic staff over 60 related to the pandemic are very acute. Of course, it should be noted that the above trends of the high average age of research and teaching staff cannot be considered outside the objective processes of aging of the population of Ukraine. Still it also reflects specific negative processes inside high education. Why is it important to analyze it? We must understand that part of the inefficiency of already taken steps and those that will be undertaken in the coming year is a consequence of inadequate, overstated expectations from all participants of the educational process, and primarily from teaching staff.

There is a possibility that from September universities will again work on a distance basis. And there is the same possibility that the government will allow classroom work next academic year or some mixed type of education. Still it can restrict access for older teaching staff in classroom in order to protect them from the COVID-19. If the precautionary measures are not followed, then there are risks of loss of academic staff due to disability or death from the COVID-19 or diseases which were not properly or in time treated because of quarantine limitations, which means the need to prepare for their compensation, and immediate transfer their teaching load to younger colleagues. Learning cannot be stopped; students must receive a full-fledged education. Herewith administrations have to understand that there is a risk not just of losing the other teacher, but of losing of that part of personnel which is very valuable for the education and science (recall that most professors and academics are over 60).

At first glance the easiest way is the dismissal of employees of retirement age due to their risks and inconsistency with modern teaching requirements. And, perhaps, in some cases, it is justified, for example if all the criteria indicate that this particular teacher can no longer at all compete with younger colleges and there is worthy replacement for him/her (the latest can be a real problem in province). However, this is far from always the case. From the theory of human capital, we know that while the health fund in the structure of human capital depreciates over the years the intellectual part of capital is still growing and persists for much longer time. And the field of education and science is precisely the areas where, all other things being equal, even in retirement age a teacher and a scientist is of great value. In addition, quarantine is not forever, and if at the end of quarantine the teacher again becomes very useful to his/her university, then the university's task is to help him or her to go through this period with maximum dignity, to increase potential and real efficiency of work.

3. PROBLEMS OF SENIOR ACADEMIC STAFF IN DISTANCE LEARNING AND POSSIBLE SOLUTIONS

It is most likely that from September quarantine will be extended, older workers will be saved in staff and will continue like everyone else using distance forms of work. So, our intention is to raise awareness about the unsolved task of making educational process as efficient as possible taking into account rather high ration of staff over 60 years old. We'll try to analyze arising challenges and find some possible answers for them.

1. Most senior teachers have serious problems in the technical implementation of distance learning (in spring semester difficulties were often minimized or implicitly transferred to younger colleagues). We are talking about the preparation of materials, their download, etc., as well as on-line forms of communication. If something technically went wrong, then help was often required, which usually no one could urgently provide, as a result, often there were no full-fledged lectures and seminars. The difficulty is that these technical skills will not appear quickly. And one must honestly admit this. What are the possible options?

It is important to help senior staff with the on-line implementation of their teaching ideas and activities in general, to show them modern educational platforms and teach how to create (and, may be, do it together) some main elements of their own courses. It is necessary to give professors more than usual hours to prepare written materials, process lectures for distance learning, and create new forms of intermediate and final control. Younger teachers need to devote more hours (officially, by plan) to help professors as it is obvious, that university won't hire more technical personnel due to budget deficit, although it is very desirable. Besides, it is reasonable to pass all practical work (that is except lectures and final control) to younger employees, as they can faster process different types of materials sent by students and create interactive methods of distance learning, including on-line work groups, professional chats and platforms, online conferences and seminars, etc. Another way is to attract students to participate in the department's online activities, give them incentives to help in creating video and presentation materials, different virtual content, online resources, conferences, groups in social networks etc., which they understand better than even the middle generation of teachers. It is also a nice idea to stimulate mutual assistance between faculties, that is 'technical' faculties of university can give technical assistance to humanitarian, and last one can give help in creating more 'friendly' methods of teaching and communicating students.

2. Among the problems there are a number of technical ones: inaccessibility of Internet for a part of population, an unstable or poor Internet connection that interrupt free education; temporary lack of sound methodological basis and certified platforms for distance training; lack of quality technical means for full-fledged distance learning (for example, simple and professional video cameras and microphones, tripods, updated software, etc. - if they had the opportunity, teachers bought most of these funds at their own expense, masking technical gaps in their universities); information security is a problem too (educational portals store a lot of confidential information, such as exam tickets and test cases, texts that are intellectual property of teachers that can be copied and distributed by unscrupulous students).

Some part of these problems government and universities try to fix in summer. But we anticipate that many teachers will meet most of these difficulties face to face again in September. Nevertheless, the task of the faculties is to let each teacher know about the technical possibilities that are available to them within the university, as well as to inform of the possible alternatives that can help to compensate their personal lack of technics. Senior teacher needs to be particularly instructed and given help in starting work with new technics.

3. We must acknowledge another problem: there are very few well-developed methods for transforming full-time courses into distance learning courses that are easy to share with all teachers. It certainly concerns all academic staff, but most of all seniors as they got used to traditional ways of passing knowledge and might not even come closer to distance learning in their previous practice. The role of the subject of study, the peculiarities of the course that is taught, are very important here too. Therefore, there is a need to ensure a real exchange of experience among teachers in specific areas. We have to admit such a feature of the Ukrainian academic space: there is no understanding of the need for a systematic exchange of experience in teaching university disciplines. That is, to hold a conference, a seminar, a discussion about something new in science is a norm, and to get together to discuss new methods, methods of transferring specialized knowledge between different faculties, universities members is something that you almost never meet in high education (mostly you can find this kind of activity as a discipline for pedagogical students, not for working teachers).

Meanwhile, the world has long ago entered a new period when a radical and constant updating of educational methods is required. We need teacher associations in the development of ideas within the profession as a whole. That will provide opportunities to evaluate our teaching progress; to give academic personnel a platform to make contact with one another and share ideas; to get closer to the development of teacher trainers who will help their colleagues to incorporate new teaching methods into their specific practice taking into account also the age and the experience of the concrete teacher.

4. There is one more feature of the modern education system: in universities all academic personnel must be engaged in science. The characteristic of the educational process in most post-soviet countries is the insufficient remuneration of academic staff. And here some difference appears between the older generation of cadres and the younger one. Older personnel studied and started work when science and education were highly valued. Most of these people have devoted their entire lives to science and education. If they worked part-time, mostly it was also in the fields of education and science, or in the areas of real economy related to their researches. That is, their academic level grew in the process of additional work. Young scientists studied at another time, they also have to earn extra money, but often are looking for a part-time job in areas where they pay more, that is, not related to science and education. As a result, they commonly cannot fully develop and realize themselves as scientists. And more, students and young teachers really see that work in education and science is extremely underestimated and there are few prospects, which leads to a further decline in motivation for full-fledged work in the field of science and, in general, interest in it.

The older generation of academic staff, with their experience and knowledge, in our opinion, should take more active role in popularizing science in the university environment. First of all, they have what is called a taste for science. And this can be conveyed to a student only from a person who is internally burning with science. Secondly, it is extremely important that they have the concept of true science, including, for example, a real paper, which is the result of research you've really done, and not the result of urgently written texts, to which you are forced by the obligation to write 3 papers a year. And these scientists also remember that they went to conferences to exchange experience, to discuss important and interesting scientific innovations, and not just to read / publish their theses, because there are such requirements for a teacher/scientist. The professors also have a huge experience of working with young people in science, they know the most common mistakes and difficulties in conducting and designing scientific research.

Already, these three points are enough to make it clear: now, in the era of another deep crisis in emerging economies it is very important to give senior academic staff the opportunity to think over and to realize the possibility of systematic, purposeful transfer of their scientific experience and experience of working with young researchers to their junior colleagues, to students, even schoolchildren and everyone who is interested. These can be interdepartmental, inter-university and even international programs. These should be serious projects to popularize true science, including issues of scientific ethics. We understand that this cannot be done overnight. But in view of the quarantine restrictions, senior professors can be asked (and allotted time within teaching load officially) to think over and to prepare to launch these projects, as well as to implement several pilot projects online if possible.

5. Another difficulty that everyone has encountered, but especially the older generation of teachers, is health problems. It is clear that by the age of 50-60 years, a number of chronic diseases appear, age-related changes occur, and the risk of life-threatening diseases increases. In

most cases, the prevention of most problems is a healthy lifestyle, involving in daily physical activities, as well as alternating stress and relaxation. However, quarantine brought just the deprivation of physical activity in the right measure, especially because for older people the most common ones are active walking and swimming, which is exactly what they were deprived of and most likely will be deprived of during the next academic year.

In addition, an experienced lecturer in his/her discipline needs only a plan, a draft of a lecture, short slides and a note with updated statistical data, the rest is in his/her head and he/she speaks freely about it. To prepare distance courses, it took much time to formalize, transfer to paper, and contribute to educational platforms (with which most teachers worked rarely or never before). Besides, many additional written documents appeared that the university administration required, for example, plans for distance learning, and then reports on the work done. As a result, each new lesson required preparation in such a volume that the responsible online teacher spends at least 12 hours a day on the computer seven days a week! As a result of several months of “sedentary” work, people faced exacerbation of chronic diseases, deterioration of their vision, vascular, orthopedic, excretory system, with excess weight, which again increases the risk of serious complications of most chronic age-related diseases. Thus, the danger of complete or partial loss of working ability, and even death, among the academic staff of the older generation increases. It must be admitted that these problems also affected the teachers of the middle generation.

Therefore, it is extremely important for the quarantine period to remove all secondary activities of senior teachers, giving them the opportunity to focus temporarily on the main goal - high-quality training of students. May be the only possible way is to cut as much as possible usual methodical and scientific load (common methodical and documentary activities, obligatory training manuals, annual scientific publications and individual participation in scientific conferences, etc.). And, to switch time of senior academic workers to the creation of better distance learning courses and electronic textbooks, to more active scientific work with students and young colleagues, including the development of their skills of investigation design and writing of high-quality research papers (which corresponds to our paragraph about transfer of scientific experience). If personnel over 60 years old have some spare time and enough health it is reasonable to stimulate them to creation, conduct and simply participation as a listener in high-quality online conferences where they can share pedagogical, teaching and scientific methodic ideas and experience. But only – if it will not pose a threat to their health. It is worth even to low temporarily the usual quantitative requirements for curricular and extracurricular workloads for senior academic staff so as not to force teachers and scientists to sit around the desk for longer time that is well-grounded. And, of course, to promote physical healthy activities for all teachers by all creative steps available.

4. CONCLUSION

Now there is a wonderful chance to make education in emerging markets more competitive, flexible, attractive and high quality. The future of higher education in Ukraine depends on how we meet this challenge. Most changes that should be done due to quarantine are obvious changes that have been done long ago. But senior academic staff requires special means and needs particular attention in view of the threats posed by the pandemic and total distance learning caused by it. For academic staff over 60 years old it is mandatory to develop a new system of scientific and teaching activities for the period of pandemic that correspond with their full or partial isolation from classroom work.

It is very useful to give technical assistance to senior teachers (if possible, to make this help constantly available), to teach them most useful elements of distance-learning technologies, to inform about possible help to compensate their personal lack of technics. It is important to provide senior staff with all opportunities to learn about designing and teaching distance courses, to give everyone a chance to master specific teaching skills and share experience and ideas with colleagues. Universities also need to create a system of transfer of scientific experience from the oldest to the youngest colleagues and students to ensure university science will pass through crisis with minimal losses. It is reasonable to think over a new assignment of working hours and rating of teachers and departments taking into account new, temporary realities (sometimes it means to give more hours and points for additional activities in connection with the implementation of distance learning and transfer of experience, but sometimes it means to reduce hours for secondary curricular and extracurricular work so that senior teachers spend less time sitting near computers). And, it is very advisable to give rules for calculating the load of teachers in new conditions before the new academic years starts.

We consider it vital to pay attention to preserving so-called biological component of the human capital of universities, namely the life and health of the scientific and teaching staff. Here you can't think for a short time: once lost health is restored for years, and sometimes it can no longer be completely restored. University administrations finally must recognize that the main value of any university is its academic staff, and everything must be done to maintain the health of personnel. It is much more important than this year ratings and any indicators of university.

We would like to recall that one cannot completely and permanently leave full-time education on the sidelines. The value of a true teacher cannot be replaced by a well-designed distance course. There is an old Greek wisdom that 'a student is not a vessel to be filled, but a torch to be lit'. The true teacher is the one who can do it. And our duty is to save and value these true teachers no matter how old they are.

REFERENCES

- Bakirov, V.S. (2020). Report of the Rector of V.N. Karazin Kharkiv National University on the results of fulfilling the terms of the contract, the Charter of the University and the compliance with the legislation in the field of the University activity in 2019. Kharkiv, Ukraine. <https://www.univer.kharkov.ua/docs/work/zvit-2019.pdf>.
- Kuznetsova, M.S. (Ed.). (2019). Scientific and innovative activity in Ukraine. Statistical Collection for 2018. Kyiv, Ukraine: State Statistics Service of Ukraine. <http://www.ukrstat.gov.ua>.
- Zhilyaev, I.B., & Kovtunets V.V., & Semkin, M.V. Higher education in Ukraine: state and problems. Kyiv: Research Institute of Informatics and Law of the National Academy of Legal Sciences of Ukraine, Institute of Higher Education of the National Academy of Pedagogical Sciences of Ukraine, 2015.