



TECHNIUM
SOCIAL SCIENCES JOURNAL

Vol. 20, 2021

**A new decade
for social changes**

www.techniumscience.com

ISSN 2668-7798



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Significance of Soft Skills in Educational Process During the Pandemic Caused by the Coronavirus COVID-19

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Abstract. Today, an increasing number of jobs require pronounced and developed soft skills, and some kind of digital skills. The coronavirus pandemic COVID-19, only accelerated inevitably, and all stakeholders in the business world had to keep up with many of today's available technologies and platforms. Although work from home is already known to many companies, in schools and faculties a such way of working is not common, and contact teaching is preferred. The teaching staff are faced with numerous challenges in the new situation, and a new way of knowledge transferring. Based on this fact, in addition to the training of teaching staff, it is necessary to adequately train and prepare students for such a form of teaching, in order to ensure the current level of quality of teaching. Students should be prepared in the best possible way for the challenges that await them in the business world, provide them a quality education in order to easily adapt to the needs of the new digital era required by the labour market. In the knowledge transfer today, except hard and digital skills, soft skills also play a significant role. It is extremely important to raise awareness on this topic, because teamwork, creativity, togetherness and empathy have never been more important and necessary. It is extremely important to show collegiality among employees but also in relation to students and thus also contributing to reduce stress in the teaching process, especially during the pandemic. Taking all the above into account, through a questionnaire which was conducted at the undergraduate professional study of mechanical engineering, it was tried to gain insight into the importance of soft skills from the students' perspective. Young educated people are the future of every country, and constant investment in their development and progress is needed.

Keywords. Soft skills, teaching process, higher education, distance learning, COVID-19.

1. Introduction

The epidemic of the new age, COVID-19, which has spread all over the world, has not only significantly affected on health and family life, but has forced a society to adapt to new ways of working. All employees, faced with many problems and challenges in everyday work, especially employees in the health care and service industries, and also the industrial sector. Teachers in the education system are not exempt from this, they are encouraged by the new situation and forced to research and adopt new online tools and techniques in the process of knowledge transferring according to the students. The transition to distance learning was inevitable, and teachers made many efforts to develop innovative solutions for online teaching that they had not known or practiced enough until now. Various challenges arose at the faculties, such as how to organize online lectures in a quality way, which had not been the practice at most faculties in Croatia until then. Make decisions about which knowledge platforms to use, and how to conduct quality distance assessment of students.

Digital forms of communication, which were also the most common forms of communication, came to the fore significantly and enabled uninterrupted teaching (Zoom, MS Teams, Skype, WhatsApp...), and platforms for sharing teaching content such as Moodle, Merlin and similar. Research on this topic was conducted also by other researchers [1-4].

COVID-19 also showed its positive side. The new situation has made us aware of the importance of written materials in the form of books, manuals, etc., which we should leave as a legacy to the future generations. We must not also omit the importance of writing scientific and professional papers. Although it seemed that every-thing would stop with the lockdown, even more was being done, because the new situation required a different approach to previously established obligations. Especially in this time, a good organization of the individual and also at the institution level, is crucial.

2. The importance of soft skills during the pandemic coronavirus COVID-19

Hard skills are skills that can be learned and as such are most often highlighted in CV references, but soft skills are certainly more difficult to describe, to define. Soft skills, unlike hard skills, which refer to professional knowledge acquired through education, are developed through constant self-development.

Lockdown with all its challenges provided an excellent opportunity to test and develop soft skills. Among these skills, as very important, should be singled out an adaptability, productivity, leadership skills, communication skills, empathy and relationship building.

Soft skills play an increasingly important role in the job market, and skills like leadership and communication will be the most in-demand on the job market after coronavirus crises. Having the right skills can make all the difference, even in difficult times.

Adaptability (flexibility as well) is certainly a desirable skill, in general, not just in an era of pandemic caused by the coronavirus COVID-19. Flexibility today implies an open way of thinking, the ability to work under pressure, adapting to new and unexpected deadlines, setting priorities, taking (additional) responsibilities.

Time management is becoming an increasingly important feature. Good organization has mostly been a hallmark of people on leadership positions, however today there is a need for the same in all jobs, especially if we are talking about working from home.

For many employees, working from home was a major challenge, but it turned out that working from home did not significantly negatively affect productivity itself. Not all people have the same habits, nor do they function the same way, so working from home has proven to be extremely productive for some people because they have been able to adjust working hours to their needs (someone is more of a morning type, while someone likes to work at night). It's easier to work when you feel that your productivity is at a higher level than usual, and working from home certainly allows for flexibility in that regard. Very important is also openness to new technologies, openness to change, flexibility in approach and adoption of new technologies that are necessary now, but also in the future. Could you just imagine a pandemic time without technology (cell phones, video calls, etc.). The importance of soft skills development and their impact on productivity has already been previously emphasized in many scientific papers [5-10].

Leadership qualities are reflected in soft skills such as decision-making ability, problem solving, teaching and mentoring skills. These skills are not only desirable for leading positions, all other employees by developing these skills can become more independent, productive, and thus more influential in the field in which they work. Today, leaders must be able to work together with their colleagues, not just above them. It is no longer a matter of exercising control, but of giving control; creating an environment where diversity, inclusion,

sustainability and collaboration are valued and where workers feel they have space to grow and take risks.

Support among colleagues is extremely important, as is collegiality. It is important to praise good ideas, give support and thus motivate people around you to work even better. If you respect the ideas of others, you let them know that they are doing good (useful) things, which will certainly contribute to the improvement even on a global level if it is widely applied.

Today, teachers have more and more roles, in addition to the primary task of knowledge transfer and educational approach, the branch of psychology is also finding increasing importance in the educational process. An individual approach has an increasing importance. First of all, it is necessary to be able to understand ourselves in order to be able to understand others, and only then we can act and be generally socially useful - and that is what gives the right results. Experts [11] call this ability emotional intelligence, and it is becoming more and more important in job founding.

We must not forget the importance of work and engineering ethics, which should also be instilled in new generations, especially for those in higher education, which is also analyzed by other researchers [12, 13].

3. Research

3.1. Objectives

In addition to raising awareness of the importance of developing soft skills [5], this paper aims to gain insight into the current situation among the student population. Examine and analyze their view of the situation, how familiar are they actually with the term and also an importance of soft skills development. Do they consider that soft skills are sufficiently applied in the teaching process, because the same will be the crucial in their future development, on a personal and also at the professional level. They will give the answers on how they deal with stress caused by the coronavirus pandemic COVID-19; which factors had the greatest impact on the same, and whether this situation left a mark in the learning process. Based on this information (collected through a survey questionnaire), we can act in the future that lies ahead and which also brings a number of challenges because the situation remains uncertain.

3.2. Sample

The survey was conducted on a sample of 30 respondents (students) in the winter semester of the 2020/2021 academic year. Respondents are participants at the undergraduate professional study of mechanical engineering, the first year (full-time students - who make up 83% of the test sample) and the second year (part-time students who make up 17% of the test sample). 94% of respondents belong to the group of 19-24 years, while 3% of respondents belong to the group of 25-30 years, also 3% of respondents belong to the group older than 30 years. Distribution by gender of respondents was 10% female and 90% male and analysis by gender has not been specifically addressed. These are mostly young people who recently came from the high school system to the higher education system. They are certainly a good example for analysis, since possible shortcomings in the educational process can be improved and applied as early as the next academic year. This means that there is a possibility of re-conducting the survey questionnaire in the final year of undergraduate professional study in order to analyze a progress in the process of knowledge transfer, which could certainly be a continuation of this research.

3.3. Survey questionnaire

The survey was created in a such way that it doesn't require a long completion time (up to 10 minutes) because that leads to a counter-effect. The questions are determined clearly and precisely, where respondents can express themselves in grades ranging from unsatisfying/negative (1), satisfying/positive (2), mostly very satisfying/positive (3), very satisfying/positive (4) to extremely satisfying/positive (5). Questions have the possibility of not giving the answers, i.e. respondents can say that they do not know the answer, which leaves the space for those students who may not be familiar with the topic or for some other reason do not want to give an answer. The survey is completely anonymous.

The survey consisted of 12 questions (Q1-Q12) and the first two questions related to gender and age. The remaining issues relate to the quality of distance learning, and the negative aspects of the same, and the importance of soft skills in the teaching process, especially in time of coronavirus pandemic COVID-19.

4. Result and analysis

This chapter presents the results and analysis of the survey and gives a distribution of response as analytical and graphical presentation which is shown on Figure 1 and Figure 2. Figure 3 also gives a graphical presentation of distribution of response expressed as percentage of positive feedback of respondents, which refers to the assessment of the importance of soft skills in the teaching process. Further, an analysis of the results from questions 3 (Q3) to 12 (Q12) is given.

Q3: Express your opinion on the quality of distance learning?

To this question, about the quality of distance learning, 77% of respondents gave a positive grade, respectively, they rated from (2) – (5).

Q4: Which of the following items do you think that affecting on the lower quality of distance learning? (the options offered was: lack of motivation in independent learning, online teaching does not provide the same level of quality as traditional contact teaching, distance learning is not well organized, teaching materials are not adapted and understandable and teachers are not available enough for students).

The lack of motivation for independent learning, and the reduced level of quality of online teaching in relation to contact teaching are generally considered as items that mostly affect to the reduce quality of distance learning which is also shown on Figure 1.

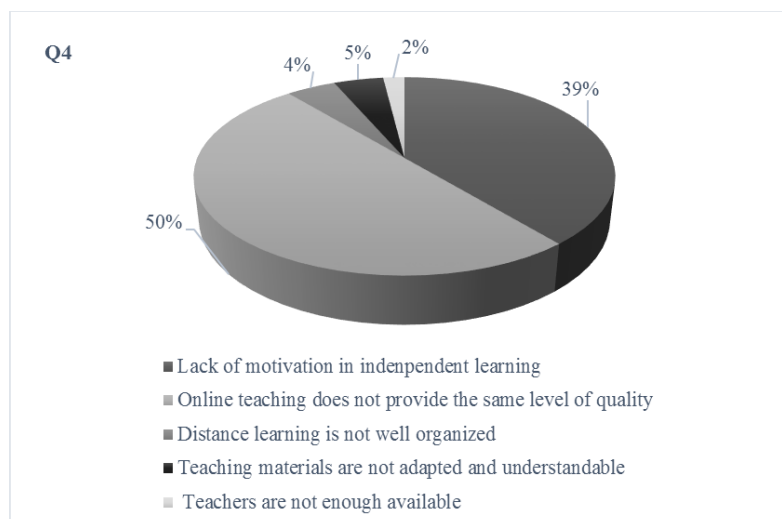


Figure 1. Student's opinion on the impacts that leads to the lower quality of distance learning

Q5: Rate the level of your digital competencies (skills) to participate in the distance learning process?

To the question of the level of their digital skills (which is extremely important in such situations) for participation in the distance learning process, they answered by the following percentage: 23% of respondents believe that they have an extremely satisfying level of digital skills, 20% of them think that digital skills are on very satisfying level, 33% respondents rated the level of digital skills with an average score, or mostly very satisfying, while 13% of respondents gave a passing grade. 10% of respondents believe that their level of digital skills for monitoring online teaching are unsatisfying. The reasons may be different, for example a less pronounced inclination towards technology or a lack of resources in the form of technical equipment necessary to follow today's technological trends (at home or during previous education).

Q6: Do you think that teachers have enough understanding for students related to the current situation caused by the coronavirus pandemic COVID-19?

To the question whether teachers have enough understanding for students in current situation caused by the coronavirus pandemic COVID-19, 90% of respondents gave a positive grade. 36% of respondents rated it as very satisfying (23%) and extremely satisfying (13%), 27% of respondents gave an average grade, also 27% of respondents gave a passing grade, while 3% of respondents gave a negative grade. 7% of respondents did not know the answer to the question. The analysis of the data showed that teachers had a lot of understanding, which is very important in the current situation during the pandemic, and will ultimately contribute to a better individual result in the teaching process.

Q7: Do you think that teamwork is sufficiently encouraged in the teaching process?

To the question whether they think that teamwork is sufficiently encouraged in the teaching process, 64% of respondents gave a positive grade (30% of respondents believe that the same is at a very satisfying level (23%) and extremely satisfying level (7%) level, 17% of respondents gave a medium grade, while also 17% gave a passing grade). 3% of respondents did not know the answer to the question, while 33% of respondents expressed dissatisfaction through an unsatisfying grade.

Q8: Do you think that in the teaching process students are encouraged to think critically and be creative?

To the question whether they think that students are sufficiently encouraged in the teaching process to be creative and think critically, 64% of respondents gave a positive grade (7% of respondents think that this is at a very satisfying level, 30% of respondents gave an average grade, while 27% of them gave a passing grade). 13% of respondents believe that creativity and critical thinking are not sufficiently encouraged, while as many as 23% did not know the answer to the question.

Q9: Do you consider that due to the current situation, caused by the coronavirus pandemic, you were exposed to more stress in the teaching process than it was before (before the pandemic)?

Given the current situation caused by the coronavirus, students commented on the impact of stress, i.e. exposure to pressure in the teaching process compared to the previous period of education (before COVID-19). Opinions are almost divided; 43% of respondents believe that due to the current pandemic they were exposed to more pressure in the teaching process, while 40% of respondents still do not think that they are under increased stress. 17% of respondents did not know the answer to the question. Each person is an individual and in their own way experiences certain situations and deals with their consequences. This topic certainly opens up a space for research and analysis of the impact of the pandemic on the study success.

Q10: To what extent do you consider that communication skills are important to a mechanical engineer?

56% of respondents think that they are very important (33%) and extremely important (23%). 17% of respondents think that they are mostly very important, i.e. they rated it with a medium grade. Also 17% of them consider it essential (important). Ultimately, 90% of respondents consider communication skills important in their profession, while 10% of respondents consider them irrelevant.

Q11: Do you think that development of communication skills is sufficiently encouraged during the teaching process (through performing exercises / lectures, presentation of papers, etc.)?

7% of respondents believe that the development of communication skills is not sufficiently encouraged during the teaching process, 13% did not know the answer to the question, while the remaining 80% of respondents expressed satisfaction (37% satisfying, 23% mostly very satisfying, 20% very satisfying).

The last question referred to the importance of having soft and hard skills when finding a job, i.e. the opinion of which of these skills will make an advantage and enable them the desired job.

Q12: Do you think that after completing the enrolled study, in a business environment of greater importance will be:

- Developed hard skills - which, among other things, include the ability to analyze data, ability to use computer programs, ability to measure and calculate, etc., or
- Developed soft skills - which, among other things, include the ability to solve problems and critical thinking, ability to work in a team, organizational skills, ethics, etc.

As many as 60% of respondents think that hard skills will be crucial for working in a business environment, while 40% of respondents give preference to soft skills.

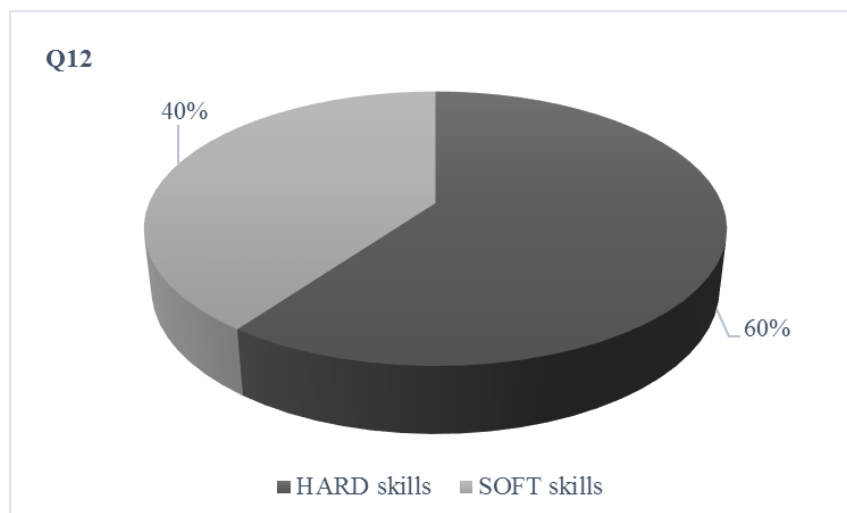


Figure 2. Student's opinion of the importance of hard and soft skills

Figure 3 provides an overview of the positive feedback to the answers of the previous questions related to the importance of soft skills in the teaching process during the pandemic caused by coronavirus COVID-19.

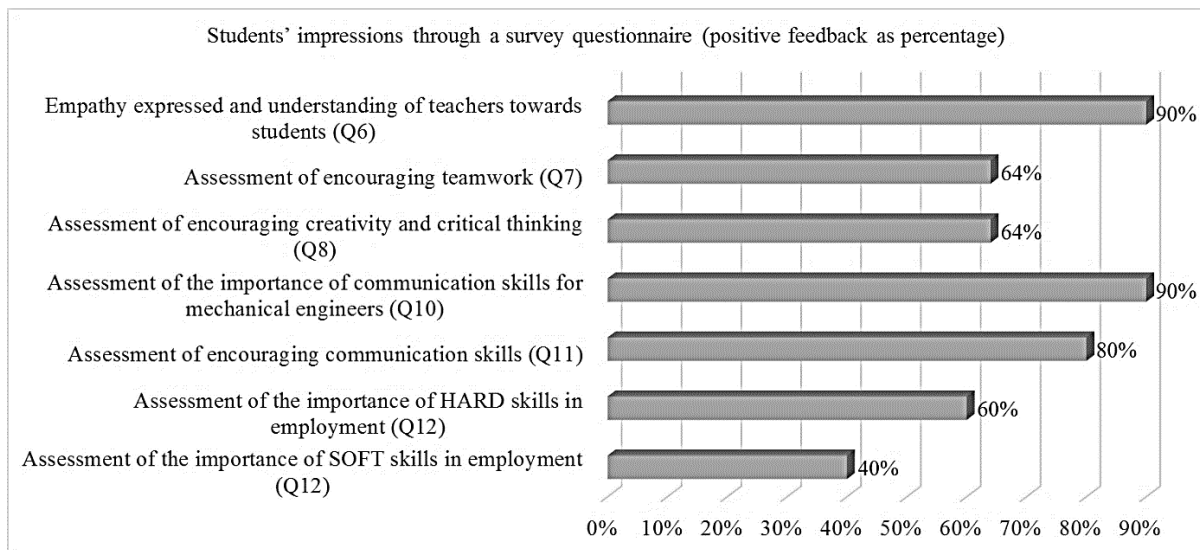


Figure 3. Assessment of the importance of soft skills in the teaching process during the pandemic COVID-19, expressed as percentage of positive feedback of respondents

5. Conclusion

The new coronavirus has worried many of us about the health of ourselves and our loved ones, and it was necessary to adapt life to the changes brought by the pandemic, primarily in our homes, but also in the workplace (faculties, schools). With the introduction of measures that are part of the response to the pandemic, many inequalities in society have come to the surface. Some people found it much more difficult to cope with the new crisis, especially those with lower incomes and also families with more school-age children (it certainly not easy and it is a huge challenge for parents to provide a computer for each child for distance learning). Empathy also develops more strongly in difficult life circumstances and that was to be expected. This is inevitable at this time during the pandemic, because we are all in similar situations, with similar problems and challenges, so we could understand each other. Life in a time of pandemic should teach us many things, primarily better treatment to the others, because often we are not even aware of what problems our work colleagues face every day. We also should encourage togetherness and cooperation, and also supporting to each other.

The use, as well as further development, of digital skills is inevitable in a time of pandemic; teachers and professors must invest a lot of effort and time to keep up with the rapidly evolving of business world, especially during the coronavirus pandemic COVID-19, and to transfer this knowledge to the new generations.

We must not neglect the importance of soft skills that will gain even more importance in the future. Our task as a teacher is to make students aware of the importance of these skills, help them to develop it skills and thus classify them among competent young people who can (upon completion of the selected study), handle not only with the professional knowledge and tools but also with these valuable skills that will facilitate their work among other people.

Finally, the analysis of the results of the survey can lead to the conclusion that undergraduate students, although relatively younger population, are well aware of the importance of soft skills development (which is evidenced by the percentage of importance of these skills in the amount of 40% - through a survey questionnaire). They are mostly aware that soft skills are important not only in their educational process but also for personal and professional progress in their future. Based on the feedback received, further action is possible which can contribute to the quality of education. Certainly, critical thinking should be

encouraged to a greater extent and we must not restrain the creativity of young people. Innovation develops from creativity, and without it there is no progress for humanity at all.

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