

ONLINE TEACHING AND STUDENTS' ACADEMIC (DIS)HONESTY

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Abstract

Traditional education implies that the teacher gives lectures, defines the learning materials and finally checks the adoption of the learning outcomes by the students. The task of the students in this F2F teaching method is focused on listening carefully to the lectures and preparing for the exam where they will show what they have really learned. The research results published so far show that during the Covid-19 pandemic, when online classes were held, only a small number of teachers took a truly active role in providing a completely new approach to teaching, including new ways of evaluating learning outcomes. Unlike them, the students adapted better to the new situation. They used available online content with greater interest, followed online lectures sporadically and even more often than before came up with new ways and sources of support in rewriting during online exams.

No form of cheating on an exam can be ignored, so it was interesting to see how the students at the Zagreb University of Applied Sciences (TVZ) coped during online exams. The research was conducted based on a WEB survey in which, in addition to undergraduate and graduate students of all study programs offered at TVZ, also participated their teachers. The obtained results indicate that many students at TVZ during online knowledge tests were not ready for responsible solving of exam tasks in an academically acceptable and honourable way. Accustomed to digital communication on social networks, students showed exceptional creativity during the online exam in devising different solutions to unethical approaches. Although their professors were already familiar with the existence of sporadic unethical behaviour of students during exams, this issue has additionally come to the fore during the online knowledge test. Despite the results of the analysis of the students' learning outcomes after the online knowledge test showed almost the same level of success as in previous years, the teachers noticed some new challenges they faced. They realized that their lack of close supervision during online exams among students further encourages the creation of new opportunities for cheating. Despite the clear and timely communication of criteria and assessment methods to students, teachers doubted more than ever before the objectivity of the obtained results of learning outcomes. For this reason, online exams were replaced by F2F knowledge testing as soon as circumstances allowed.

The results of this research further raised awareness of the need to introduce significant changes in the knowledge assessment processes. These changes should primarily begin by communicating the fundamental values of academic integrity, as well as by communicating the sanctions for their violation. In addition, the administration of TVZ, together with its teachers, should define procedures for when, to whom and how often they will conduct education on this topic, which will further try to reduce the frequency of any form of academic dishonesty.

The climate of academic honesty is extremely important for every educational institution, regardless of the model of implementation of the evaluation of learning outcomes, therefore potential solutions to combat academic dishonesty are an important topic of further research, especially now after the experience of online knowledge testing. Investigating this topic at TVZ, we just touched the tip of the iceberg.

Keywords: online teaching, objectivity of learning outcomes, Covid 19 pandemic, student's dishonesty, fair method of assessment.

1 WHAT IS AND WHAT CAUSES STUDENTS' DISHONESTY?

Data according to which 65% of children who started elementary school in 2017 will have completely new occupations during their working life that do not yet exist today (Schwab & Samans, 2016) require the education system, and especially higher education institutions, to ensure that young people have access to knowledge and skills necessary for their future. Focusing on a positive orientation towards such a future as well as successfully managing the entire educational process can offer young people not only a clearer professional affirmation, but also correctly form their ethical behaviour. This is a big responsibility, so it is extremely important that all activities and all study programmes are focused on thinking about the future, which will provide students with the necessary learning outcomes so that they

are better prepared to deal with the various challenges that the future may bring. In this sense, it is important to encourage divergent thinking among students which, together with their creativity, directs them to constantly search for acceptable solutions to upcoming challenges (Mlinarević et. al. 2019). In this context, each faculty should consider the question of whether their study programmes, the quality of the classes held, as well as the ethical principles of their students are in line with the above stated challenges. All these challenges, especially the academic integrity of students was an additional challenge in online teaching during the Covid-19 pandemic.

Various descriptions of student behaviour that are considered academically dishonest can be found in the literature. The most serious and difficult form of academic dishonesty according to students' opinion is cheating that occurs during written exams, while others occur in various forms of written work such as essays, seminars, final and graduation theses (McCabe et al., 2001). By definition, academic dishonesty or cheating is intentional behaviour that is contrary to certain rules during the assessment of learning outcomes that gives a student an unfair advantage over other students (Cizek, 2003). Academic dishonesty in writing written works includes unauthorized appropriation of another author's work and presenting it as one's own (plagiarism), falsifying or inventing bibliography, submitting written work drawn up by someone else, and taking someone else's sentences (quotations) as one's own without referencing. Despite the agreement among most students that cheating in exams is unethical behaviour, many of them will still try to cheat (Nath & Lovaglia, 2008). Teachers are the ones who mostly define the quality of teaching, as well as being responsible for monitoring compliance with academic principles of ethics and timely recognition and sanctioning of academic dishonesty of their students. Therefore, it is not surprising at all that each teacher has a different share of students who practice certain forms of unethical behaviour. The results of research conducted on this topic indicate that students are significantly less prone to academic dishonesty with a teacher who clearly expresses enthusiasm during teaching and conducts classes in a stimulating and energetic manner, while dissatisfaction with the quality of teaching and the lack of interaction with the teacher is an additional incentive for students to engage in academic dishonesty (Orosz et al., 2015).

Students will more easily decide to cheat when they assume that there is little chance that they will be caught in their unethical behaviour (large number of students in the exam, only one group of questions without subgroups, no checking by the teacher and the possibility of bringing things into the class, etc.). When more specific reasons for cheating are required to be indicated, students cite the extensive curriculum they have to learn, the lack of understanding of the content they have to learn, and the lack of attention of the teacher who is in charge of control, hence not preventing cheating (Genereux & McLeod 1995). The results of recent research show that there are three predominant motives why students decide to cheat: the desire for a better grade, insufficient motivation to study, and lack of time due to being busy with other obligations in order to fully adopt certain content (Dorothy, 2011).

Although the topic of academic integrity of students is often researched, especially in the United States of America (Jones, 2011), where teachers invest extra effort in preventing student dishonesty (Davis, 2011), in Croatia, such research is much less frequent, which certainly does not mean that situations in which students practice cheating are rare. From the available research results, it is evident that over 90% of health faculty students (who are preparing for highly ethical professions that are closely related to human lives) have at least once engaged in behaviour that is considered to be academic dishonesty (Petrač & Bartolac, 2014). Cheating is also a problem when the teacher needs to react to it. The results of the research, where the sample consists of teachers at universities, show that 51% of teachers ignored cheating at least once, even though they consider it unacceptable (Štambuk et. al, 2015). The perception of social acceptance of unethical behaviour as a part of cultural attitudes can also be one of the elements that influence the academic dishonesty of students. The importance of these cultural attitudes is shown by the results according to which students in the so-called transition societies are more prone to copying (Grimes & Rezek, 2005) than students in economically highly developed countries. Students in the USA will perceive copying and cheating in exams as a violation of their personal study results and almost without thinking will warn their fellow student about the unacceptability of such behaviour, which none of the other students will condemn, while in the Republic of Croatia such a student would most likely be called a "*snitch*", and the cheating student as "*resourceful*". Students in Finland also have a clearly developed awareness that copying, regardless of whether it is a colloquium or an exam, or an unethical approach to writing a seminar or thesis, is a serious form of academic dishonesty. Such students are considered fraudsters who are immediately prevented from further studying. When a teacher at a German university determines that a student has used illegal technological aids (e.g., smart phone, MP3 devices or some other similar wireless device) when checking learning outcomes, he is automatically banned from studying at all faculties in Germany (Mlinarević & Tokić Zec, 2019). It is the development of technology and the wide availability of

smartphones, smart watches and various other gadgets that give them the ability to access a wide range of content on the Internet, which is responsible for the increasing growth rate of academic dishonesty (McCabe et al., 2012).

A climate of academic integrity in any higher education institution is of utmost importance. In colleges where the rules of ethical behaviour are clear, academic dishonesty is less present among students who are focused on following these rules. Even just a warning about the existing control of the originality of student papers or about copying during written exams, as well as the punishment that follows when some form of academic dishonesty is established, results in a lower share of cheating among warned students (Bilić-Zulle, 2006). It is precisely for this reason that most faculties around the world, including Croatia, adopt their Ordinance on the disciplinary responsibility of students, which defines the forms of disciplinary acts, jurisdiction, and deadlines for initiating and conducting disciplinary proceedings, the imposition and execution of disciplinary measures, and regulates other relationships arising from the disciplinary responsibility of students. Despite the existence of this Rulebook, teachers often do not report observed examples of academic dishonesty, either because of the need to invest additional effort in initiating disciplinary proceedings, fear of the personal emotional consequences of facing an unpleasant situation, or the belief that the punishment will be mild anyway (Vandehey et al., 2007).

Zagreb University of Applied Sciences (TVZ) also has its own Rulebook on the disciplinary responsibility of students, where copying, receiving, or providing assistance in solving tasks in all foreseen forms of knowledge assessment, regardless of whether they are organized in a classic way or online, are considered to be serious disciplinary offenses. Depending on how the Commission characterizes the disciplinary offense, one of the following disciplinary measures may be imposed on the student: verbal or written warning, ban on taking exams or attending certain types of classes for a period of 6 months, exclusion from studies for one academic year, warning before exclusion and permanent exclusion from studies. This Rulebook at TVZ was extremely rarely activated, until the summer term of 2020, when F2F classes continued in their virtual environment due to the Covid-19 pandemic. Namely, during online exams, teachers at TVZ reported students' academic dishonesty much more often and demanded the initiation of disciplinary proceedings. As a reason for this, teachers most often cite the fact that they want to let students know that copying is unacceptable and that teachers can monitor and sanction it even though the students are not directly available to them. The results of the research "Challenges in higher education during the COVID-19 pandemic and social isolation: experiences and needs of students and teachers of higher education institutions" (Bezjak et.al, 2020) which indicate that among the teachers there are those who are satisfied with conducting online exams, as well as those who, suspecting the academic dishonesty of the student, consider the obtained results very questionable. The following are just some of the selected quotes that confirm one or another attitude of the teachers regarding academic honesty during the online knowledge assessment:

- *"It may be difficult to establish ethical governance in an online exam, but with various aids, such as Safe Exam everything is possible. The results are similar to the results of previous years."*
- *"In the online exam, each student was given a task that they had to solve within the deadline. The results and distribution of grades is a Gaussian curve."*
- *"Students cheat more often in online knowledge testing conditions."*
- *"The implementation of the online knowledge test was not objective due to the fact that the students did not solve the tasks independently and exchanged the results with each other."*
- *"The online way of working is not satisfactory for conducting colloquiums and exams. It is practically impossible to supervise many students, and all the questions and tasks that we have used so far in exams are unusable in the future. This year's knowledge test results are by one whole grade higher than in previous years."*
- *"Written online exams turned out to be disastrous, there is no teacher who did not have problems with copying. Verification of the student's identity is not secure, the students collaborate with each other, which can be seen from the "sharing" of identical answers."*
- *"The preparation of an online exam requires much more time from the teacher than the preparation of a traditional exam, with the fact that it is not possible to determine with certainty that this particular student wrote his exam."*
- *"I think remote testing is the same as live testing with only one question: What grade do you want?"*

From these selected quotes, it is clearly visible that the conditions of online knowledge assessment during the Covid 19 pandemic have further emphasized the need for communication, supervision and sanctioning of academic dishonesty. The fact that teachers are aware of this is evidenced by their great interest in participating in the conference on the topic "*How concerned are we with the academic (dis)honesty of students?*" held in Zagreb, at the end of November 2022, organized by the Agency for Science and Higher Education. The conclusion of the conference participants is that academic dishonesty is a long-term problem of society, not only of higher education, and that if we want to change the current situation with which we are not satisfied, we must stop behaving in the same way ourselves, which primarily means starting systematic education in order to raise awareness of the importance of academic honesty, not only among students, but also among teachers (Kunda, 2022).

2 METHODOLOGICAL FRAMEWORK OF CONDUCTED RESEARCH

During May 2021, Zagreb University of Applied Sciences (TVZ) conducted the research "*Experience and satisfaction with online teaching and working from home*", when classes were still held online due to the Covid 19 pandemic. Since four undergraduate and graduate study programmes in the fields of Informatics and Computing, Electrical Engineering, Mechanical Engineering and Mechatronics, and Civil Engineering are conducted at TVZ, it was extremely demanding to ensure a representative sample among the students. Online communication proved to be successful in engaging them, so that 322 undergraduate students and 113 graduate students participated in the research. In order to be able to compare students' attitudes about academic dishonesty with the attitudes of their teachers, 74 teachers also participated in this research. These teachers represented all the studies held at TVZ and as expected, teachers of natural and technical subjects are most represented in the sample (76%), while the rest teach in the social group of subjects.

The survey questions refer to certain thematic units that question the attitudes of the research participants related to the motive of their study programme choice, the fulfilment of expectations and satisfaction with studies (as elements that influence the perception of the importance of student academic honesty), all the way to the topics of conducting online knowledge tests that additionally raised the awareness of importance of academic honesty among the participants in higher education. A scale from 1 to 5 was used to assess individual attitudes of all participants in this research, where 1 is the lowest and 5 is the highest grade. The collected data were analysed using SPSS 20.0 (computer statistical program intended for social and economic research).

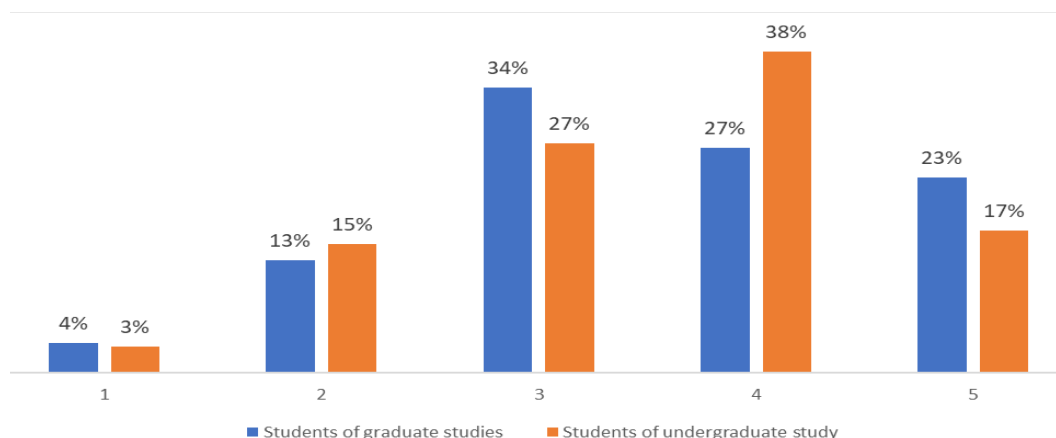
3 RESULTS OF CONDUCTED RESEARCH

The interests in reasons for choosing a particular study program, expectations and satisfaction of undergraduate and graduate students at TVZ are continuously checked through internal researches. The number of students enrolled at TVZ from year to year shows a constantly growing interest of students towards education in the ICT as well as in the field of construction, which is in line with the current demand for such personnel on the Croatian labour market. By comparing the results of internal researches from 2017 and 2021, it is evident that there are more and more students at TVZ who know exactly why they chose a particular study. At TVZ, there were 66% of such students in 2017, and 74% in 2021. They justify their choice of continuing their education after high school primarily by fulfilling the prerequisites for further career development in a certain field and personal aspirations and the knowledge provided by their study programme.

Along with the growing awareness in their future career development, the growth of specific expectations from the chosen study is also visible among students. As expected, older graduate students have even more concrete expectations than their younger colleagues in undergraduate studies. At the time of enrolment, 79% of graduate students and 67% of undergraduate students had clear expectations from their studies. Regarding the student's expectations from their studies, there is also a visible difference between 2021 and 2017. In 2017 there was a smaller share of students who had clear expectations from their studies (71% of graduate students and 55% of undergraduate students).

After a certain period, their expectations from studies at TVZ profiled to a certain level of satisfaction, which the students again evaluated on a scale of 1-5. Although we found a statistically significant difference between undergraduate and graduate students in terms of expectations, there are no significant differences in their satisfaction after a certain period time. Undergraduate students express their satisfaction with an average score of 3.50, and graduate students with 3.52. As the average grade

alone does not say much, it was interesting to look at the structure of the average grade of student satisfaction (Graph 1).

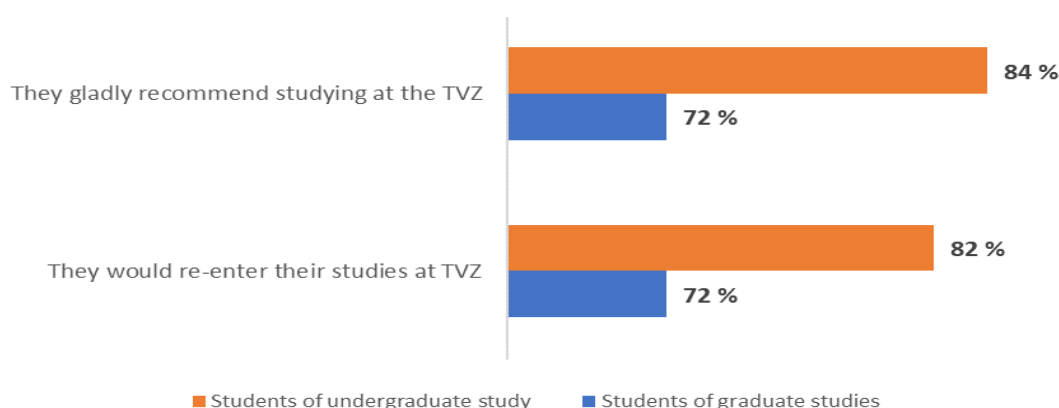


Graph 1: Structure of student satisfaction

Source: "Experience and satisfaction with online teaching and working from home", Internal research project, Zagreb University of Applied Sciences, Bračun & Pauković & Horvat, 2021.

Much more is visible from the structure of the rating of satisfaction with studying at TVZ shown in this way than from the average rating itself. In this way, it is possible to see exactly how many dissatisfied and how many satisfied students there are. In addition, the differences between undergraduate and graduate students can be monitored. From the results shown in Graph 1, it is evident that 17%-18% of students are dissatisfied (grade 1 and 2) with their studies at TVZ, 27%-34% of them are on average satisfied, while satisfied students (grade 4 and 5) make the highest share (50%-55%). Among the dissatisfied students, there are no differences between younger undergraduates and older graduate students. Among the satisfied students, there are slightly more undergraduate students than their colleagues from graduate studies.

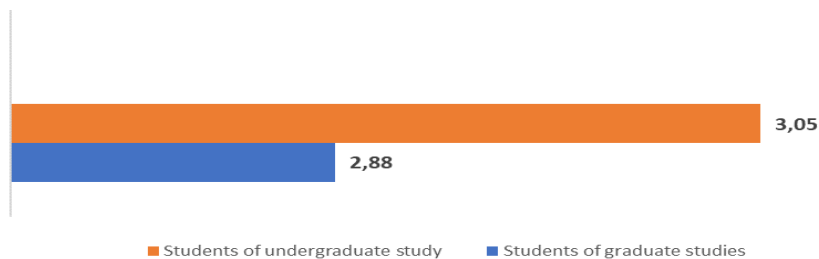
This difference in student satisfaction, depending on their level of study (undergraduate/graduate studies), is additionally visible from their answer to the question of whether they would enrol in the same course again after the acquired study experience and whether they would recommend studying at TVZ to their friends (Graph 2). Based on their experience, 82% of undergraduate students and 72% of graduate students would enrol in TVZ if they had to decide again. Undergraduate students (84%) are somewhat more inclined to recommend studying at TVZ to their friends than their older colleagues (72%) from graduate studies.



Graph 2: Students as TVZ promoters. Source: "Experience and satisfaction with online teaching and working from home", Internal research project, Zagreb University of Applied Sciences, Bračun & Pauković & Horvat, 2021.

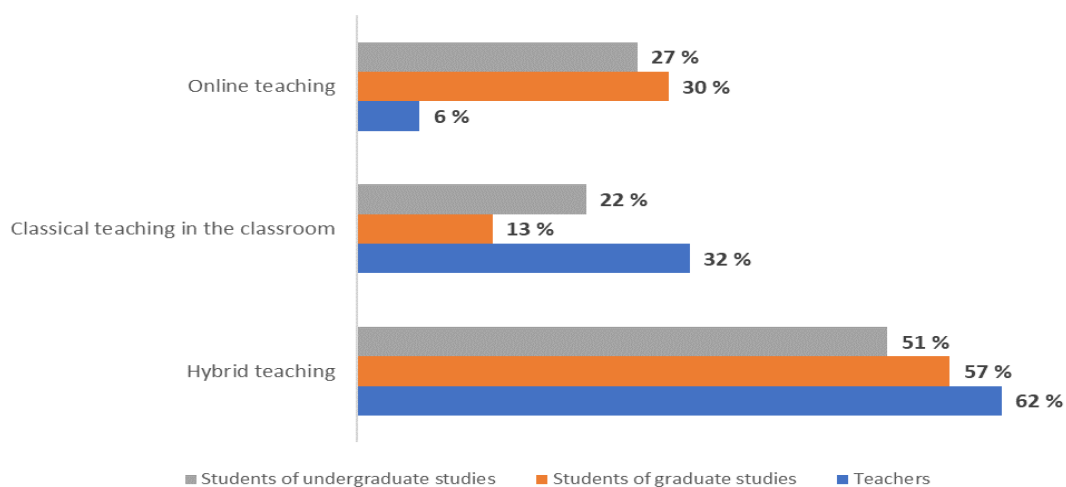
The question that preceded the group of questions related to the experiences of online knowledge testing was the one that checked the students' perception according to how easy or difficult they think it is to complete the study they enrolled in (Graph 3). Students answered on this question also on a scale

from 1 to 5, where 1 means that the study is extremely easy, and 5 means that according to their assessment, the study is extremely difficult.



Graph 3: How difficult is it to finish studying at TVZ? Source: "Experience and satisfaction with online teaching and working from home", Internal research project, Zagreb University of Applied Sciences, Bračun & Pauković & Horvat, 2021.

Students do not consider their studies at the TVZ too difficult, which is not surprising when we know that most of them knew what awaited them there and wanted to enrol in that particular course. Although graduate students rate the difficulty of their studies somewhat easier (2.88) than their undergraduate counterparts (3.05), this difference between them is not statistically significant. When we compare these results during online classes with the results from 2017, when classes were organized exclusively F2F, there is almost no difference, which indicates the constant perception of students about the difficulty of studying at TVZ. After a full year of experience with online classes, the attitudes of students and teachers at TVZ regarding quality of teaching differ only minimally. Both students (4.50) and teachers (4.05) highlighted additional video materials and constantly available recordings of lectures and exercises as those elements that additionally help in raising the quality level of online classes as well as in monitoring classes and learning. Although both students and teachers quickly got used to online classes, their views of how everything will look like after the Covid 19 pandemic ends, still differ. While teachers believe that after the end of the Covid 19 pandemic, it will be relatively easy for them to return to classical teaching (2.66), students are more inclined to believe that this return to the "old" will be somewhat complicated for them (3.32). A year of experience in online teaching has enabled both students and teachers to recognize its advantages and disadvantages. Although Zagreb University of Applied Sciences is a technical faculty that follows modern technological trends and the largest share of their students are from the field of Informatics and Computing, due to limitations in the permit issued by the Ministry of Education, until the Covid 19 pandemic at TVZ it was not possible to conduct any other form of teaching except classic F2F. The Covid 19 pandemic changed it all almost overnight. Thanks to the knowledge of the teachers, their digital competences, and the available digital tools, TVZ has ensured that its students can continue their studies almost without any delays. Therefore, it is not surprising how both students and teachers answered the question about the preferred teaching model, when they could decide about it at all. (Graph 4).



Graph 4: Preferences according to certain forms of teaching Source: "Experience and satisfaction with online teaching and working from home", Internal research project, Zagreb University of Applied Sciences, Bračun & Pauković & Horvat, 2021.

If the epidemiological situation allowed it, both students and teachers would prefer (51%-62%) to continue with hybrid teaching (combination of F2F and online teaching). When it comes to classical teaching in the classroom, as expected, teachers (32%) are more inclined to it, but students are not against it either, especially the younger ones from undergraduate (22%) studies. If they could choose, graduate students (13%) would least like to return to the classic teaching in the classroom. The advantages of online classes are noticed more by students than by their teachers, so it is not surprising that between 27% and 30% of students would like to continue with online classes, in contrast to only 6% of their teachers. Below are explanations of the differences in attitudes among the participants of this research when it comes to different model of teaching.

If the hybrid teaching model is left out as a compromise solution, teachers are the biggest proponents of F2F teaching (32%), and at the same time the least inclined to online teaching (6%):

"Only in the classroom can I be sure that the students are following the lesson and can react if I see that they don't understand me. And during knowledge tests, I can control the students' independence in giving answers only in the classroom."

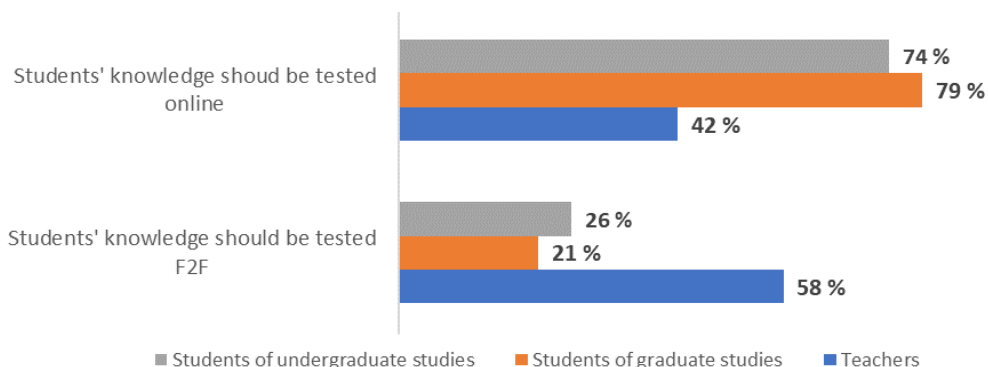
Undergraduate students are also inclined towards the hybrid teaching model (51%), although online teaching is also acceptable to them (27%), while 22% of students would like to have classic F2F teaching in classroom again:

„More practical work, field teaching and participation in projects can only be done through F2F teaching. All these elements are important for us students, who need to prepare well for the demands of the future job."

Graduate students are the ones who most often work (81% of them work occasionally or full time), so it is not surprising that they are also most inclined to the hybrid teaching model (57%). If they could choose, 30% of them would prefer to continue with online classes, while only 13% of them would be inclined to F2F teaching:

"Classic teaching in the classroom proved to be limiting for us after the experience with online teaching. Especially for students who work and rush to lectures after work."

When explaining the reasons for the preference of F2F teaching among teachers, the challenge of academic dishonesty, which became even more prominent during online classes, is clearly expressed. For this reason, it is not surprising that the views on the preferred way of holding exams between teachers and students differ significantly (Graph 5).



Graph 5: Preferences according to the way of conducting final exams. Source: "Experience and satisfaction with online teaching and working from home", Internal research project, Zagreb University of Applied Sciences, Bračun & Pauković & Horvat, 2021.

While teachers are almost split between their preference for F2F (58%) and online exams (42%), students are significantly more inclined to online exams (74%-79%). What keeps teachers, and even a certain share of students, reluctant to significant acceptance of online knowledge testing is the doubt of its objective evaluation. It is the objectivity of such knowledge assessment and doubts about the students' academic integrity that are the most frequently expressed views in explaining the reasons for the preference of F2F knowledge testing, as shown by selected quotes not only from teachers, but also from students.

Teachers:

- *"F2F is the only way to objectively evaluate a student."*
- *"The F2F knowledge check guarantees the independence of the student in giving answers. Copying has become common."*
- *"We are not machines but social beings, so I consider direct contact natural and easier, especially for checking knowledge."*

Students:

- *"I am not inclined to check my knowledge online because of the unreliability of the grade thus obtained and the high possibility of cheating during the online exam."*
- *"F2F knowledge testing is fairer and less stressful, and the teacher can more easily see when the student is confused and when he really doesn't know."*
- *"The time for writing the online exam is significantly shorter and the questions are much, much more difficult. Live is easier if you have learned you can pass. In the online exam, even if you learn, you barely pass."*
- *"The possibilities of manipulation in online exams are much greater."*

The explanations given by both teachers and students when advocating online knowledge testing are almost completely opposite, thus showing that they have confidence in the credibility of such knowledge evaluation, as well as control over the potential academic dishonesty of students.

Teachers:

- *"The right choice between F2F and online knowledge testing primarily depends on the subject and field, but if the questions are well formulated and the teacher has good control over the possibility of student cheating, everything can be tested online."*
- *"The knowledge results of individual subjects can also be checked online. Some technical faculties in the world have been doing this for 30 years, using various software that help them monitor student cheating."*
- *"With optimal maintenance conditions and high-quality engagement on the part of our teachers, it is easier for students to take an online exam if they are employed or live outside of Zagreb."*
- *"In written online knowledge tests, students should be asked questions that test their understanding of engineering problems, not just theoretical ones. No cheating tactics help with such questions."*

Students:

- *"When a high-quality exam is designed where the questions check the understanding of the material and not the facts, the teacher does not even worry about whether the student will deceive him or not."*
- *"The credibility of online knowledge test depends on the subject and the teacher. For some exams, neither an open book nor accessible Internet can help students to solve it if they do not know the material."*
- *"A student who wants to cheat will cheat either live or from home and nothing will stop him from doing so. Those who are aware that they are studying for themselves will approach the knowledge test honestly in the classroom and from home. FULL STOP."*
- *"Among us students, I think copying is present in more than 95% of cases... I used to copy myself. But in order for me to copy in the given short time span during the online knowledge test, I had to get to know the material very well to make any sense in copying."*
- *"If copying is suspected, the teacher has the right to invite the student to an oral exam. Cheating existed even before online exams, it exists still and will exist in the future. There is no safe way to prevent it completely."*
- *"If knowledge tests are organized in such a way that it is necessary to show understanding, and not just knowledge of theoretical facts, no forms of cheating will help in the exam."*
- *"If a large number of ICT corporations around the world can maintain quality online knowledge testing of candidates for their certification without difficulty and fear of cheating, then I think TVZ can do it too."*

The research presented here “Experience and satisfaction with online teaching and working from home” indicates to what extent academic integrity during online knowledge testing has become an additional important challenge for Zagreb University of Applied Sciences.

4 CONCLUSION

Compliance with ethical principles is the obligation and responsibility of all members of the academic community, which is not only teachers, but also students as its most numerous part. Academic excellence, ethical fulfilment of obligations, and civilized behaviour that includes mutual respect for all participants in higher education are expected of students. The academic integrity of students defined in this way implies exactly the same rights and equal obligations for all members of the academic community.

What worries the academic community more and more is the trend of an increasing share of unethical behaviour among students, as indicated by many research results on the topic of academic dishonesty from previous years. Colleges cope with this negative trend in different ways. In order for all activities undertaken to be regular, most faculties adopt their Rulebook on disciplinary responsibility of students, where all forms of disciplinary actions are defined, disciplinary procedures are defined, as well as the application of appropriate disciplinary measures that can be determined for students after the disciplinary procedure has been carried out. The Rulebook itself is not enough in the fight against the growing trend of academic dishonesty among students. Precisely for this reason, and in accordance with their basic activity, higher education institutions are increasingly focusing on education about academic honesty, not only the education of students, but also their teachers.

The results of the research conducted at Zagreb University of Applied Sciences (TVZ) about academic honesty show that during the implementation of online exams due to the Covid 19 pandemic, the previously observed trend of academic dishonesty growth was further accelerated. During this way of checking knowledge, students are aware that teachers cannot their honest approach to the knowledge test in an equally efficient way. The teachers are also aware of this situation, and because of this, they were significantly more inclined to initiate disciplinary procedures, justifying it as preventive action in order to prevent their repetition. Students are also aware that cheating during online knowledge testing has become almost common. This state of facts, confirmed by the results of research at TVZ, further emphasizes the need to introduce significant changes at all faculties. With this research on such a delicate topic, we have only touched the tip of the iceberg.

The change should start from a clear communication of the value of academic integrity, which will clearly promote academic integrity among students and teachers through better information about the forms of academically dishonest behaviour, as well as the sanctions for such behaviour. In addition to continuous communication, faculties should, together with their teachers, define clear procedures with which they will try to reduce the possibility of all forms of academic dishonesty. An integral part of these procedures should be the implementation of education aimed primarily at teachers, and then at students. These trainings can make it easier for teachers to recognize, report and combat all forms of cheating and copying during the knowledge tests. When teachers become aware of their role in raising the level of teaching quality by strengthening students' motivation for educational content and creatively approach the creation of test tasks and checking students' work, students will perceive the importance of academic integrity in a different way. Various software solutions can also help teachers to avoid plagiarism of written works and copying during exams. But technology cannot replace their consistency in reporting students who have fallen foul of academic integrity, teachers must do it themselves. Such a systematic implementation of all these activities could slow down the growing trend of academic dishonesty and help create a climate where academic dishonesty is completely unacceptable to all members of the academic community. With all these steps, over a period we may scoop a little more than the visible tip of the challenge related to academic integrity.

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