



Ministarstvo  
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# **Guidelines for assessment and grading in a virtual environment**

For teachers

But also for parents/caretakers and students

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Ministry of Science and Education

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For the Ministry:

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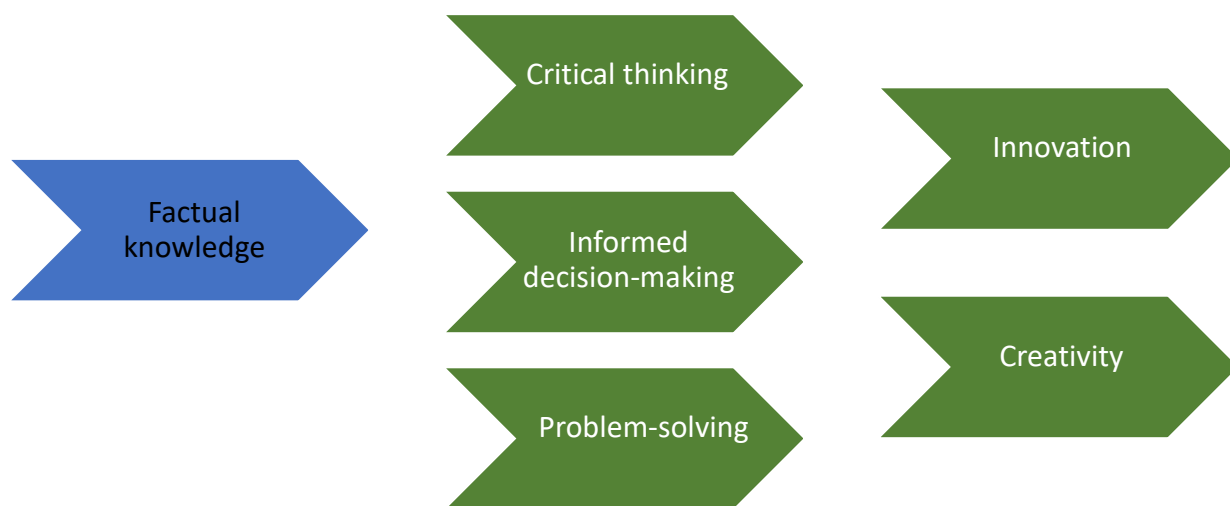
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## Introduction

The transfer to distance learning has happened practically overnight at all levels of education, from primary and secondary schools to higher education. The Croatian Government decision to close all educational institutions from Friday, March 13<sup>th</sup>, 2020, came into power immediately on Monday, March 16<sup>th</sup>, which was the first day of country-wide implementation of distance learning.

Support was provided centrally for all educational institutions in the form of technical support, offering platforms for distance learning, and creating content and guidelines to organize student workload in distance learning. However, an important topic remains to be discussed: assessment and grading, a topic already identified as challenging within the curricular as well as the Bologna reform. Both reform processes aim to introduce student-centred learning by focusing on learning outcomes rather than teaching content, and enabling all students to reach the planned outcomes through an individualised learning process. Introducing student-centred assessment requires changing the basic building blocks of an educational system, and assessment has been shown to be resistant to reforms. At the same time, **students organise their learning on the basis of the expected assessment and grading methods**. Thus, assessment has a huge impact on the achievement of planned educational outcomes.



The change of the learning and teaching paradigm, **from teaching factual knowledge to developing competences necessary to live and work in the 21<sup>st</sup> century**, such as problem solving and informed decision making, has to be manifest in the assessment methods. Student-centred assessment can be done well within a virtual learning environment. This is shown by substantial research, which, even though done

primarily in tertiary education, and to a smaller degree in pre-tertiary education, is applicable at all levels of education.

The aim of these guidelines is not to discuss various research theories or provide a comprehensive introduction to the topic. Rather, the aim is **to list all assessment and grading methods deemed acceptable in formal education in Croatia, taking into account the technical limitations and the assumed level of teachers' and students' competences**. The guidelines are created primarily for pre-tertiary education, but they can be adapted for use by higher education institutions. Because it is not yet clear when the students will be able to go back to their schools and higher education institutions, **it is necessary to start with assessment and grading now to ensure that all students are graded at the end of the school/academic year**. These guidelines are meant to support the assessment process, and we are aware that they are not comprehensive and that they will not provide answers to all questions nor the solutions to use in each and every case.

## Principles of assessment in distance learning

Distance learning takes place in exceptional circumstances and all of its advantages should be used while trying to mitigate the disadvantages as much as possible. This form of teaching and learning is expected to be used exclusively only in the short term, and thus it should not hinder students' learning, especially not in terms of their transition to higher education. Along with the achievement of the educational outcomes through core content, the focus should be on students' wellbeing and willingness to learn, rather than grading what they have learned.

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If the current exceptional circumstances continue, we expect that certain laws and bylaws will have to be amended. The Ordinance on Forms, Procedures and Elements of Student Assessment in Primary and Secondary Schools has already been amended to enable consistent and systematic introduction of new forms of assessment and grading.

Thus, the rules that were valid until recently, such as assessment plans and exam periods, do not have to be applied any longer due to the transition to distance learning. It is however crucial to re-schedule assessments and more demanding tasks to ensure that students have a balanced workload.

It is essential that teachers communicate with students and parents in order to create *a circle of trust for learning* because each has a role in assuring that learning takes place. The virtual environment needs to be clearly structured around key values, including fostering engagement, valuing work and imposing zero tolerance to unacceptable and prohibited behaviour. The students need to be aware that they are responsible for themselves and their own learning, and they should not be encouraged to submit anything but their own work. The parents have a responsibility to support their children's awareness of what is acceptable behaviour so that they can act responsibly.

It is also important to point out that students in distance learning need different forms of support. Working with the school's professional staff, it is necessary to continue providing guidelines for adapting lessons to students with special needs, in line with their individual documented needs, while gifted students will still require more demanding tasks assessing higher-level cognitive skills.

## Assessment in a virtual environment

A **virtual environment** for learning and teaching enables the delivery of content, communication and interaction, as well as assessment and grading. However, assessment and grading in a virtual environment do differ from what is normally done in a physical classroom.

Firstly, when the teacher and student are physically in the same place, direct synchronous communication is possible (in real time), and it is easier to **check the authenticity** of answers and to put in place the usual protection against cheating and copying as the teacher supervises the physical environment, even though it is nowadays becoming more difficult in the physical world to prevent plagiarism and cheating based on sophisticated use of technology.

When **implementing assessment for learning and as learning (formative assessment)** there is no need to strictly control the environment neither in the physical nor in the virtual classroom since the emphasis is placed on quality feedback provided to the student on how to improve their learning.

Despite the fact that some schools hold virtual classes in real time, having all students present at the same time in the videoconference format, this form of teaching is not recommended as it greatly burdens the network, slowing down the work. It is not necessary for students to identify themselves visually since all our students and teachers have their **unique authenticity identity** ([AAI@Edu.hr](mailto:AAI@Edu.hr)), which gives us a significant advantage in organising and implementing distance learning. This is an advantage lacked by most other countries.

In the physical classroom students and teachers communicate in real time, which makes the control and supervision by the teacher possible when implementing the **assessment of learning (summative assessment)** or when testing for a grade. In most cases this is not possible in virtual classrooms without investing additional time and funds and acquiring specialised tools. On the other hand, this form of controlled testing is often reduced to testing factual knowledge and solving routine tasks, which is not appropriate for developing the skills needed to live and work in the 21<sup>st</sup> century.

Therefore, a new assessment paradigm should also be applied in a virtual environment and distance learning. Within the curricular reform we have moved the focus from learning for a grade to learning because it is useful to learn, because we enjoy learning and we are taught how to solve problems, think critically and do team-work. Therefore, a move should be made towards higher cognitive levels that

cannot be assessed by the usual methods (exclusively). We also assess to provide **feedback to students on their achievement of educational outcomes, as well as on how to improve learning**. To achieve this, we need to monitor students' work, encourage them to be active and to cooperate with both teachers and other students. A virtual environment for learning and the virtual classroom are great places for this, as all activities are recorded and questions and comments can be submitted both within the set deadline and subsequently. In addition, other students can give answers to the questions posed and provide solutions to problems, which is a desirable scenario.

It should be particularly emphasised that both teaching and assessment need to **focus on core content by leaving out unimportant details or content**. Unimportant details or facts can blur or shift the focus from what is really important, thus placing an unnecessary burden on students.

**A virtual environment provides excellent opportunities for assessment for learning and as learning. However, when assessing learning we need to move away from the traditional methods and focus on core content.**

### Assessment methods and guidelines: the standard approaches

Our schools still mostly rely on traditional assessment methods, even though steps forward have been taken with the curricular reform, as described in the [Assessment Guidelines](#). The current situation is novel for all teachers and it is difficult enough to change one's teaching methods, let alone assessment methods. It is thus no wonder that, even though some innovative assessment methods are readily available, most teachers are wary of implementing them and **prefer using some of the existing, traditional assessment methods and procedures**.

These include oral and written exams in controlled conditions. In distance learning, which is asynchronous as a rule, the problem with such methods is checking the authenticity of the answers received.



**Both methods and tools exist** that enable authenticity checks in distance learning, however, they are only necessary in high-impact examinations (such as State Matura). The country-wide introduction of such tools requires time, acquisition of specialised equipment and training. The **Appendix B** lists some tools for checking authorship in online assessments, as well as some authentication methods, however, none of these can be immediately put to mass use. Additional examples and tools are listed in the [Digital Technologies to Support Assessment and Monitoring](#), a manual developed within the e-Schools pilot project.

Assessment methods do exist that are appropriate for distance learning and that can be used to assess students' knowledge and skills in order to grade them.

It is necessary to adapt the oral and written examinations (by reducing their number and scope), and use routine examinations and tasks for self-assessment and peer assessment. The use and frequency of such examinations will depend on the subject, learning unit, and above all, the educational and learning outcomes.

The simplest way to organise an **oral** examination is the videoconference. This assessment method is **not recommended** for all subjects because it would unnecessarily burden teachers, students, and the distance learning systems. However, **all subjects in upper primary and secondary educations with four teaching hours per week, require one oral exam to be organised by the end of year, especially if there are doubts around the final grade or if all grading elements have not been adequately covered. For subjects with three hours per week, oral exam needs to be organised if the student is to receive the highest final grade, or if the teacher finds this type of assessment applicable and necessary to give a positive grade. Otherwise, oral exams are not recommended in distance learning.**

**Four hours per week – one oral exam**

**Three hours per week – oral exams in special cases**



Certain subjects, such as Mathematics, Physics and Chemistry, **normally also include written examinations** as a way to check problem solving and other types of competences. For this, specialised tools such as Geogebra or Matific can be used, as well as the simple method of *setting a problem and a deadline within which the student needs to submit a photo of the solution*. This simple method is also applicable to locations which do not have broadband Internet access. Authentication is not possible for this method, however, it helps that teachers already know their students well, and monitoring their learning, work and progress can help them in assessing students' knowledge and skills. **After submitting a high-impact written examination, the teacher also needs to implement a brief oral examination/meeting to discuss students' work and clarify the difficulties encountered or the correct solutions to a problem.**

To encourage students to learn continuously, the teachers are encouraged to prepare them for oral or written exams by using simple **self-assessment** exercises (such as quizzes in Kahoot, Moodle, Socrative, or Google Forms) through which students can collect points necessary to take the exam. **If a tool will be used for an exam, the students need to have gotten used to it through self-assessment and learning, in order to decrease the impact of the digital environment on the assessment results.**

**Standard assessment methods are applicable in distance learning, but with decreased frequency and scope and when preceded by self-assessment and peer assessment.**

However, more time needs to be invested into developing critical thinking, problem solving, project-based learning, research, peer learning etc. These are the goals of the **curricular reform** (School for Life) which is being implemented in all schools in the country from this school year. This requires the development of different methods to assess the achievement of educational outcomes.

### Assessment methods and guidelines: the innovative approaches

**The new paradigm of student-centred learning and teaching requires a change in teaching methods as well as in assessment methods**, because assessment directs learning. The virtual environment enables us

to implement numerous innovative assessment methods that are better suited for assessing higher-level cognitive skills, and that give a more active role to students.

Students can be asked to link the content studied to their own experience, **focusing the assessment on the learning process and learning awareness, rather than on memorising facts**. For example, in the language classes, students can be asked to establish links between a work of fiction and current events, and grammar and style can be checked implicitly, in oral or written form (e.g. while the students are talking about their experiences or submitting a written assignment).

For example, in Croatian language classes students can be asked to research the ways in which Homer's epics influence the contemporary society (e.g. the meaning of Penelope's character, Achilles' heel or the Trojan horse), resulting in a review, debate, desk research report or a discussion paper.

In Mathematics, instead of routinely solving standardised problems which include exponential equations, students can be asked to **look for** natural or social phenomena governed by exponential equations. In addition to that, they can be asked to try to interpolate the function with the data and use appropriate mathematical tools to explain or model a real problem, such as spread of fake news or viral spread, population growth etc. Additional examples are listed in the **Appendix A**.

Students can perform such tasks **individually or in a team**, meeting, coordinating and cooperating with their peers online with the teacher monitoring and providing clear guidelines. The result of such work can be some form of a writing assignment, a poster, a presentation, a multimedia piece or a computer simulation. Again, the emphasis should not be on the result itself, but on the learning process, so that the student first needs to submit a draft or a research plan and collect feedback from peers and then from the teacher (more detailed examples are listed in the Appendix A). An additional step can be introduced before the result is finalised – to present it for evaluation in the virtual classroom, and provide support and additional feedback to the student. **The students cannot be expected to produce such results on their own, without receiving feedback and support**. This is especially true for students who have not previously experienced such tasks. The teacher has the key role of guiding students through these types of tasks, and providing specific forms of support to students with special needs and gifted students.

Let us repeat that **solving standardized problems in writing by applying a pre-defined procedure** is the type of task commonly given to students in Mathematics and science classes, usually by giving different

problems to different groups of students and limiting the time for solving them to avoid that students copy from each other. When in doubt, the teacher can check authenticity of the answers by talking to the student. In a virtual classroom, **digital tools can be used to limit the time to solve a problem; students can later be asked to comment on the solutions submitted, and question banks can be used to give a different problem to each student.** The tools necessary for that are described in the Appendix B.

We note that it is good for students in upper classes of primary school, and students in secondary school especially, to also participate in project-based learning or a flipped classroom.

*As written by a teacher from the Istria county: "...preparing a lesson as project-based learning. I asked the students to find as much information, links, materials etc. on a topic that was to be discussed in class...By the end of the week, we will use the tools available, Office Teams or Google chat, to comment on the results. I find it absolutely essential that each student receives feedback for the work submitted (which I will also put into the electronic grade book). I have already prepared my own materials for the lesson, but we will only use it to compare what I have prepared with what the students have found."*

Other such examples are listed in the Appendix A.

Students can cooperate with other students in the virtual environment and submit their work in the virtual classroom or via e-mail. This method requires that the teacher knows their students well: the level of mentoring they require, but also if their parents are able to provide adequate support.

In the current situation, when the pandemic is forcing students to spend more time with their parents than usually, the students have an opportunity to involve their parents in joint research and experimental learning. The teacher needs to establish clear boundaries for learning with parents, so that the parents know that supporting students' learning should not involve doing the student work instead of them.

In order to assess and grade such complex tasks – research, projects etc., and thus provide useful feedback to students, teachers should use **rubrics** and other methods of establishing assessment criteria and defining the elements of grading. **The assessment criteria and elements of grading** need to be presented to students before they start their work, and the teacher needs to make sure that these are well understood by everyone. More on this topic can be found in the [Assessment Guidelines](#) published this

year in the framework of the curricular reform, while the newly adopted curricula all contain the elements of grading. Examples of rubrics for assessing complex tasks are available in the Appendix A.



We have to ask the students to read, write and learn regularly, but we also need to ask the parents to join **the circle of trust for learning**, especially with primary school students. In the current circumstances, when students need to be at home and are thus primarily focused on digital content, we should not forget about reading as a key competence. On the contrary, this is a time when students have additional opportunities to read. In lower primary school classes, students can find simple texts to read at their own home libraries (in addition to the prescribed reading lists), while upper primary and secondary school students can also read additional works of fiction (possibly on teachers' or parents' recommendation). Here we should emphasise that a plethora of e-libraries, e-books and e-content in general is now widely available, enabling students to read extensively to develop their reading competence, but also for pleasure (in their mother tongue, or even in a foreign language).

The schools sent us a number of positive examples from practice in the last two weeks.

*A school principal from Karlovac sent us the following message: "I would just like to report that distance learning is a big (and a bit unexpected!) success. Both teachers and students are happy, but the students especially, because there are certain advantages to distance learning, and it is attractive to students. The parents are now more involved in the learning process, they give feedback to teachers and submit the work done by students. The atmosphere (within and around distance learning) is very relaxed and the new set of everyday tasks has invigorated our collective spirit. In all this, of course, we always keep in mind that we all have to act responsibly in the current crisis."*

It is important to balance student workload so that they are able to submit their work in time. This is discussed in [Recommendations for organizing a student's workday in distance teaching and learning](#). We should note here that **teachers have to coordinate through virtual staffrooms and classrooms when scheduling "larger" examinations**, just like they normally do when students are in school. "Larger" examinations can include oral exams, written tests, or deadlines to submit complex assignments. All of these need to be listed in the monthly plan of written examinations.



Summative assessment, but also formative assessment, is especially crucial for secondary school **graduates** because for them the school year ends sooner. We want to stress that graduates are expected to be more responsible for themselves than younger students, and they should understand that this is an opportunity to **become more independent and develop responsibility towards themselves and their work.**

Examples of tasks that graduates can perform on their own include studying according to the reading lists prescribed for the Matura examination, or (re)reading the works of fiction on which the essay question will be based. In addition to that, students can download question banks from previous Matura exams and use them to practice, and get feedback by comparing their solutions to those expected at the exam (the National Centre for External Evaluation of Education website contains the question banks with solutions and answers). Of course, the student can also discuss the solution with peers and the teacher in the virtual classroom. To help graduates prepare for the exam, each week we broadcast videos created specifically for that purpose on TV, and all are also available online (RTL 2, YouTube, <https://skolazazivot.hr/4-razred-ss/>).

With all types of assessment methods, it is crucial to **clearly differentiate the core content from supplemental or less important content.** Core content is the content that directly contributes to the achievement of educational outcomes of the subject curricula.

**Innovative assessment methods include project-based learning, problem-solving, creating posters or e-portfolios, research and practical tasks. All require teacher and peer support, and should be implemented in stages with regular feedback from the very beginning of the process.**

The virtual classrooms that we have established for every subject include fora for exchanging materials and ideas, and School for Life mentors use the Loomen system to provide additional support to teachers in designing and implementing innovative assessment methods and procedures.

## Assessment methods and guidelines: let us reward engagement and active learning

To develop the competences necessary to live in the 21<sup>st</sup> century, the students need to be **active learners**, able to manage their own learning (self-regulation) and aware of what they have achieved and still have to do to achieve the expected learning outcomes (metacognition). An active student is a student that takes charge of their own learning, strives towards independence and encourages others to learn. Distance learning can foster unexpected transformations – such as quiet and introverted students becoming exceptionally active and independent due to their digital competences and acting as positive role models to other students.

Student learning and engagement need to be identified and rewarded, including taking part in virtual discussions, participating in peer assessment and self-assessment, independent research and coming up with ideas for supplemental learning and research.

After studying the videos or the readings provided, it is possible to give students an opportunity to sum up the key points in one minute. This enables the teacher to check authenticity of student work, while students learn to identify key information.

Teachers should also give homework and assess the quality of the work done at home as well as the regularity of submission. With homework, it is crucial to provide feedback to students on what they have done well, and what remains to be improved (the Moodle system, the basis of Loomen and Merlin systems, enables students to easily submit homework and teachers to provide feedback).

It is especially important and valuable that students do their own research and study various Internet sources, because that is how they learn to think critically and check credibility. After collecting information from reliable sources, students should be able to list arguments in a discussion paper following a pre-defined structure and respecting a word limit.

The key role of the teacher is to act as a mentor and a guide and monitor students, especially in the self-assessment process. Namely, the teachers know that subjective bias is a constant challenge in assessment, and thus students need to be monitored, guided and corrected if necessary. It is important to stress that

self-assessment improves student motivation and readiness to learn. It is recommended to involve parents in the self-assessment process.

**Student engagement and independent work need to be recognised, encouraged and rewarded in all types of activities – from homework to peer learning and independent research. The aim is to develop independent learners and make students aware of their responsibility for their own learning and success.**

Examples of assessment for and of learning (formative and summative assessment methods) are listed in the table below.

Assessment for learning (formative assessment)	Assessment for learning and of learning (formative and summative)	Assessment of learning (summative assessment)
-online discussions	-an essay on a topic that links the content discussed with student's own experience -mind map	-essay with a pre-defined topic, format and aim
-one-minute summaries of lessons, videos or texts -blogging	-self-assessment and peer assessment according to pre-defined criteria -collecting reliable sources on a topic as a support to learning	-portfolio -researching a predefined topic (independent literature review) -presentation
-diagnostic test	-practicing key skills for homework	-individualised tests produced through randomization of questions from a question bank
-solving or creating a quiz -a game or a puzzle to check comprehension	-simulation, modelling, coding or developing a software solution -educational games -describing real-world problems that can be solved by the method students are learning	-experimental research (the experiment can be done at home, virtually or using a simulation) -solving a problem -a group project

## Assessment and grading in lower primary school classes



Because distance learning for the first four grades of primary school assumes indirect communication with students via parents, it is not necessary that students are graded for all learning units in all subjects. It is equally unnecessary to implement all previously planned assessments, and this is also true for upper grades of primary school and secondary schools. However, it is necessary to assure achievement of the educational outcomes connected to key competences (reading and reading comprehension, numerical skills, basic information on the world around us) as well as the values behind the educational process. **In lower primary school classes, it suffices to monitor student activity – if they have completed all the tasks and homework. Students should also receive complex tasks that will enable them to synthesise what they have learned, while encouraging learning (make a poster, a drawing, a chart or a mind map, write an essay, fill in or create a quiz, etc.)** We would like to emphasise that it is not necessary to implement oral exams within distance learning. To fully abolish grading in some, or even all subjects, the education law would have to be amended, and this is an option we are considering.

## Assessing practical skills

Practical skills are particularly challenging to assess, especially psychomotor skills which can be demonstrated in a virtual environment only to an extent. Examples of skills that can be assessed in the current situation include programming skills and dyeing hair. However, a number of skills are very demanding and difficult to practice outside a physical workplace, laboratory or a classroom – as is the case with a number of skills necessary to medical staff. Even though virtual reality systems and simulators for such skills exist, they are not widely available due to prohibitive costs and technological requirements. Thus, acquisition of certain skills will have to be postponed or transferred to the next school year in the case of key skills. However, with graduates this is not a possibility and for them it is necessary to consult the Agency for Vocational Education and Training and Adult Education to identify key skills and find adequate alternatives. In higher education, faculties and other higher education institutions need to agree



with other institutions delivering similar programmes (e.g. medical studies), as well as the main employers in the sector (e.g., Ministry of Health for medicine), on the possibilities to postpone the practical courses before deciding on how to proceed.

Until the end of the school year, all schools, including vocational schools, need to focus on achieving the educational outcomes in the cognitive domain, that is, on the learning process and learning how to learn. Skills practice can be postponed for the next year. Furthermore, if at all possible, skills should be practiced on simulations and virtual engines (or other digital tools; examples include electrical drawing and creating blueprints, technical drawing, creating project documentation, creating construction blueprints, 2D and 3D modelling, using CAD in technical subjects, exterior design, automotive mechatronics, window display design...). The vocational school graduates received the topics for their final theses in the autumn, and they can be adapted to the current situation by simulating the practical elements as a basis for the theoretical part of the thesis. Thesis defence can be organised as a 20-minute oral examination via a videoconference. Some practical elements can be simplified so that they can be completed at home (for example, future bakers and cooks can be tasked with preparing dishes that require only widely available ingredients and home equipment; future waiters can make a video, or use a video conference to demonstrate e.g. the appropriate table setup and serving food). A specific challenge are skills that can only be practiced with clients, or using complex tools (e.g. in training hair stylists, beauticians, pedicurists and house painters), however, they can also be practised by adapting and simplifying exercises and using technology, with the help of the Agency for Vocational Education and Training and Adult Education. The Agency is developing and modelling exercises and scenarios for defending theses, and cooperating with teachers and principals in sharing examples of good practice.

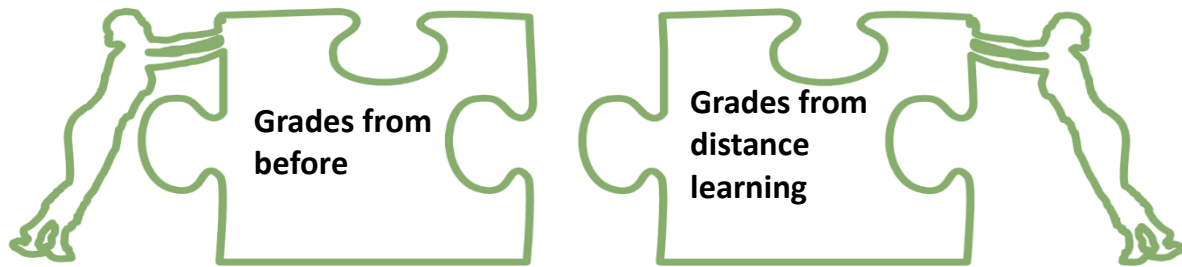
Theses can be defended online in some cases. A specific issue are apprenticeship examinations which are now part of some of the theses defences. It seems that no apprenticeship examinations will take place before summer, and that the theses creation and defences, as well as examinations in crafts, will be done according to the existing ordinance as the Ministry of Economy, Entrepreneurship and Crafts has not yet adopted the new one.

## Final grades

The final grades are established in the usual way. All grading elements are to be taken into account, the grade needs to reflect student engagement from the beginning of the year, as well as the level of the

achievement of the educational outcomes and the quality of the acquired competences, knowledge, skills and abilities, including the achieved level of independence and responsibility. According to the Ordinance on Forms, Procedures and Elements of Student Assessment in Primary and Secondary Schools, **grading** is the attribution of a numeric or descriptive value to the results of student assessments and monitoring.

Thus, **the assessment done within distance learning and the connected grades should contribute to the final grade as well as what was done before, while schools were still open.**



Depending on the course of the pandemic, the Ministry will suggest amending the law to abolish final grades in certain primary school subjects (Physical Education, Music and Visual Arts).

## Assessment in higher education – guidelines

Most guidelines provided here can be adapted for higher education. It is crucial to **focus on core content and align assessment with the subject learning outcomes**. Because higher education, and university education in particular, requires the achievement of higher levels of learning outcomes, the use of problem-based learning is recommended along with research projects, coding, creating portfolios and blueprints, writing literature reviews and reaction and discussion papers.

**It is crucial to focus on core content and align assessment with the subject learning outcomes.**

Many teachers have already developed formative assessment methods (which are also listed in syllabi) and are able to systematically monitor student work by requiring them to submit assignments such as essays, and this needs to continue. Distance learning systems (such as Moodle) are well suited for formative assessment, and have numerous functionalities to help teachers adapt the existing methods to distance learning.

Many teachers rely on periodic monitored written tests, but it is difficult to virtually recreate the controlled classroom environment. Those who already took online examinations will have acquainted themselves with the tools such as safe exam browsers or software for facial and voice recognition, motion capture etc. Periodic testing can be partly replaced with the help of question banks, so that each student gets a different problem to solve. Moodle, which is the LMS (Learning Management System) behind Loomen and Merlin, includes various functionalities for creating questions and tests in various disciplines. However, this will represent a challenge if the questions banks need to be created from scratch.

A **large question bank** is key for making any test relatively cheat-proof. If the questions are categorised (according to the topic and difficulty), randomization can be used to ensure that all students receive individualised tests which cover all of the core content and are equally difficult. In multiple choice questions, the answer sequence can be randomized as well as the order of appearance of questions. If the test is done with a time limit, with randomization, one multiple choice question per page and a time

limit set for each question, cheating is mostly prevented and the results can be considered authentic. SRCE centre for e-learning offers free online courses for advanced users of the Merlin system, including Testing and Quizzing as well as Grading, along with the Merlin Manual which covers testing in detail, and Recommendations for Online Testing through Merlin (all available at <https://www.srce.hr/ceu>).

In addition to the regular tests, which are relatively difficult to make, one can use tests available in the H5P module. H5P is a supplemental module based on the Moodle platform that is slowly becoming standard in most Moodle-based systems (Loomen, Merlin). The H5P module can be used relatively easily by teachers to prepare advanced, visually attractive test questions. The module does not offer all Moodle testing functionalities, but it is visually more attractive and easier to use.

It is definitely recommended to **announce any tests to be taken simultaneously by a large number of students** to the LMS administrators (SRCE or the higher education institution staff), and to do a **rehearsal/mock test** before. Test rehearsal is crucial because it enables the teacher to collect feedback (Did all students manage to access the test? Were there any technical issues? Is the difficulty level in line with students' expectations?) and prevent problems. Along with tests, as noted already, more advanced assessment methods can be used. Technically, these can be done within the LMS module normally used for student assignments. Modules for student assignments enable teachers to set a time limit for students to submit a piece of work, such as a critical review of a topic. Papers and similar complex assignments result in a unique piece of work in which plagiarism is typically easy to detect. In addition to that, most higher education institutions in Croatia have access to a **plagiarism checker**, and it is very often one of the functionalities **built into the module for student assignments**. While plagiarism checker provides additional protection from cheating, the best protection is education for academic integrity.

Higher education institutions need to give special attention to arts education and identify programmes and subjects in which assessment can be completed under certain conditions while teaching is done on distance. This can serve as a basis for changing the teaching plan to assure the best use of student time under current conditions. A similar approach can be used in art secondary schools.

Finally, we want to remind teachers that a plethora of free, good-quality MOOCs (Massive Open Online Courses) are offered online by various higher education institutions, and students can take MOOCs to supplement their learning and even achieve some (not necessarily all) subject learning outcomes.

## State Matura in 2020

The implementation of the State Matura is a special issue. At the moment, the implementation of the State Matura is not likely to be jeopardised, with its cancelling being the last option. However, it is necessary to consider the State Matura examinations that are to be taken first by students.

The State Matura examination which is planned to be implemented first is the essay in the Croatian language which is not likely to take place on the planned date – 16 May 2020. Although it is hard to plan the next dates due to the fact that the epidemiological situation changes on a daily basis, several scenarios should be considered. It is a good thing for students to be able to take some exams prior to the *real* exams, so that these are mock exams. We are therefore considering the taking of the mock essay online in order to provide feedback to secondary school graduates on their readiness to take the official exam, as well as to check the possibility of this type of essay writing.

There has been much public controversy as to shifting the dates of the State Matura examinations to the autumn term, which would imply that the autumn term would be the only term this school year. However, due to the epidemiological situation we cannot be certain for the time being whether it will be possible to implement the examinations in the summer or even in the autumn term, in the same conditions in which the State Matura has been implemented so far.

Some secondary school graduates find that it would be best for the State Matura not to take place this year. This, however, brings into question the regularity of the school year for grammar school (gymnasia) students, according to applicable legislation. In case the epidemiological situation does not change for the better and there are no necessary preconditions for implementing the State Matura online, the cancelling of the State Matura would require rapid amendments to the Education Act, as well as to some other acts and by-laws.

In addition, it is essential for higher education institutions to adapt and to be flexible in terms of enrolment in faculties and higher education institutions, by changing enrolment dates, as well as changing the forms of assessment, if needed. The announcement that some higher education institutions will introduce entrance examinations to replace the State Matura is unfeasible due to the fact that the epidemiological situation does not allow for the implementation of the State Matura, which will make it even less possible for students to travel to different faculties across Croatia to take entrance examinations. It should be



reminded that the State Matura is a strong anti-corruption measure. An additional challenge is how to implement class examinations or the testing of other skills or knowledge at the faculties that have been implementing them so far.

A decision on the postponement and rescheduling of the State Matura examinations can be made in the middle of May at the earliest, and this will depend on the epidemiological situation. In the meantime, several scenarios should be elaborated, and the necessary amendments to the acts and ordinances are to be prepared.

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## Assessment and teacher self-assessment

While implementing distance learning it is recommended to send a questionnaire to students and parents on the successfulness of the teacher in implementing distance learning. In so doing, it is useful to have open-ended questions to enable students and parents to provide concrete suggestions for enhancing distance learning. Notwithstanding the result, it is advisable to discuss the responses with other colleagues in a virtual staff room, so that everyone could obtain feedback from each other. The results can be also discussed with the non-teaching staff with a view to finding solutions and ensuring the quality of learning and teaching.

Five key indicators are set out hereafter related to high-quality organisation of distance learning by the teacher. The teacher can use these indicators for self-assessment.

## Five key indicators of high-quality distance teaching *(teacher self-assessment)*

1. Your students are more active in distance learning than in a typical classroom.
2. All students take part in activities assisted by Your individualised support measures.
3. Students do research and create more complex work by using trustworthy sources.
4. Students provide feedback to each other accompanied by suggestions for improvement.
5. Students are able to describe assessment and grading criteria for each assignment being graded.

## Concluding remarks

Distance learning takes place in **exceptional circumstances** and all of its advantages should be used, as well as try to remove most of its disadvantages. This form of learning should not present an obstacle to students in their further progress, especially in terms of transition to a higher education level.

**The well-being of students** is crucial. Students should be encouraged to learn by high-quality feedback, while grading is secondary.

The teacher should **differentiate the core content** from less important content or the facts that burden the learning process and do not contribute to achieving learning outcomes and acquisition of values.

The contact of teachers with students and parents is essential for creating *the circle of trust for learning* in which everyone has their own role. Finally, it is crucial to introduce a clear structure and values in a virtual environment for learning, which includes systematic development of respect for work and zero tolerance of unfair forms of work.

A virtual environment is a great spot for assessment for learning and as learning. However, in terms of assessment of learning it is desirable to make a shift from the traditional (standard) assessment methods applied in the classroom and to assess what is really relevant.

The standard forms of testing can be also applied in distance learning, but in a smaller number and to a lesser degree, as well as with previous self-assessment and peer assessment.

Innovative assessment methods comprise the design of projects, posters, problem-solving, creation of e-portfolios, research work, practical work, all of which require teacher and peer support, as well as gradual progression with feedback to students related to various stages of their completion.

**Activity and independence in work** of students should be recognised, encouraged and assessed positively, including homework, peer learning and independent research. The aim is for students to become independent in learning and aware of their own responsibility for learning and results.

More precisely, **student engagement can be assessed in all subjects** through discussions and homework, and in so doing, at least one grade can be assigned. Furthermore, it is possible **to prepare a more complex task** in every subject in the form of a poster, presentation, project, research work, critical review or a problem task. Such a task can be assessed by using rubrics or another form which clearly indicates the

assessment elements and criteria. This means that all students can obtain at least two grades by the end of the school and academic year.

In terms of school subjects with four teaching hours per week, it is desirable to carry out oral examinations once by the end of the school year, especially if the teacher estimates that the elements for awarding a positive grade are insufficient and that this is an appropriate form of examination. In terms of subjects with three teaching hours per week, oral testing is recommended in case the student is awarded the grade 'excellent' and the elements for awarding the grade are insufficient. When it comes to all other subjects and situations, oral testing does not need to be carried out. With regard to lower primary education, oral testing is not carried out during distance learning.

When it comes to the teaching of Mathematics and science classes it is possible to carry out a written form of solving typical tasks online, by limiting time and by using tools that enable the individualisation of tasks through the use of question banks, so that each student receives their own tasks.

In terms of testing of knowledge on a larger scale (oral examinations, more complex tasks, tests in a written form) subject teachers should coordinate and harmonise the dates in the framework examination timetable for each month at the class level. At the same time, the needs of students with difficulties should be taken into account, which makes the role of the school's non-teaching staff important as well.

Focusing on the core content, while leaving out unnecessary facts

Encouraging learning is more important than grading

Assessing student engagement in every subject

Assessing a piece of more complex work by the end of the year (e.g. poster, project, research)

A virtual oral examination is possible for subjects with four teaching hours

Testing of knowledge in a written form from the question banks can be carried out if needed

The grade awarded at the end of the school year is based on grades awarded throughout the whole school year (including the period of distance learning)

## Hints for parents / caretakers

Given the current exceptional situation, parents should be involved in school work more than ever, and also ensure **a circle of trust for learning**. This is particularly important for lower primary school students. Our common priority is the benefit of students who should be encouraged to learn by high-quality feedback, while grading is in the second place. Since we have all found ourselves in a completely new situation and type of teaching, it is important that all of us – teachers, students and parents - have mutual understanding.

Although this is difficult under the circumstances, expectations from parents are greater during distance learning than during frontal teaching at school, since they are adults in direct daily contact with students. Therefore it is recommended that, during distance learning, parents get familiar with assessment and grading methods even more than usual. The entire learning and teaching process has become more visible to them, while previously most of the process took place in school. In addition, parents' involvement is recommended due to the shift in the assessment and grading methods.

Parents should secure and set **the school rules at home**, and determine the learning hours (notably for subject-teaching i.e. upper primary school). We should be aware that neither children, nor parents experience their home as school, and believe that home is just for homework. This is no longer valid under these conditions, and parents should take such an attitude towards their children.

The parental role is to stimulate a child to carry out all the tasks independently and encourage a child to address the teacher in case of any ambiguity. Parents are responsible for assisting a child, but not for accomplishing tasks instead of a child. Although it is easy to understand parents' aspiration that students accomplish the best results possible, including grades, parents' assistance should not take the form of doing homework instead of students, completing tasks intended for independent students' work, or making a pressure on students and teachers in terms of better grades. When providing excessive assistance, parents cause damage to developing responsibility and independence in children and diminish their chances for independent orientation in the lifelong learning process and everyday problem-solving. Parents should teach their children to restrain from cheating and plagiarism, and value work done by themselves and others.



While doing so parents should cooperate with teachers and non-teaching staff in order to secure a general welfare to their children, stimulate them to learn, do research and organize their time efficiently during distance-learning.

During learning and assessment, parents could monitor the manner of students' work and assist students, in cooperation with teachers and non-teaching staff, in terms of elaborating optimal approaches to learning and manners of learning, i.e. assist students in learning how to learn.

This document is not entirely meant for parents, but we advise parents to get familiar with key guidelines and expectations from students at each level of education.

In terms of assessment and grading, the following guidelines are important for parents.

**The well-being of students** is crucial. Students should be encouraged to learn by high-quality feedback, while grading is secondary.

Parents should take note that assessment will no longer be based on familiarity with the content as a primary indicator of knowledge, but attention will be also paid to other elements (independence, creativity, ability to use the knowledge, team work etc.). Parents should know that teachers will take these into consideration as well. It should be emphasized that during this period all students should also get grades for accomplishing their tasks. It is also expected that students work independently on complex tasks. Parents should get familiar with more complex tasks but they should not participate in their elaboration and complete them instead of students.

The aim of the assessment is also to **provide feedback to students on the accomplishment of educational outcomes and on how to improve their learning**. In order to achieve this, parents should monitor the students' work and stimulate their activity and cooperation with teachers and other students.

A special emphasis is on the following: **contents taught, assessed and graded by teachers should be focused on the core content without unessential details and facts diminishing the essence.**

All assessment methods should take into consideration the need to clearly **differentiate the core content from supplemental or less important content.**

**Innovative assessment methods include projects, posters, problem-solving, e-portfolios, research and practical work. However, all of them require teacher and peer support, as well as gradual progression with feedback to students related to various stages of their completion.**

To be specific, **student activity can be graded in all subjects** using discussions and homework, resulting in at least one grade. Moreover, it is possible to **have at least one more complex assignment** in each subject in the form of a poster, presentation, project, research, critical review or a problem-solving task. These can be graded by rubrics or in some other manner clearly showing assessment elements and criteria. Therefore, by the end of the school year, each student may get at least two grades.

In relation to school subjects with four teaching hours per week (Croatian Language and Mathematics), oral examination is advised at least once by the end of the school year, notably if a teacher or a student have doubts about the final grade, and in case of insufficient elements for determining a final grade. In relation to school subjects with three teaching hours per week, oral examination is advised if the final grade is excellent, and in case of insufficient elements for determining a final grade.

To conclude, under these exceptional circumstances, decisions are taken according to experts' recommendations and the epidemiological situation, so new circumstances may result in some changes. However, we would like to emphasize that changes will not affect students negatively, nor diminish their options for continuation of education. In that spirit, we request parents to be patient and cooperative.

## Basic references

Guidelines for assessing the process and achievement of educational outcomes in primary and secondary education, Ministry of Science and Education, 2020

Ordinance on forms, procedures and elements of student assessment in primary and secondary school, Ministry of Science and Education. Ordinance on amendments to the Ordinance on forms, procedures and elements of student assessment in primary and secondary school

Manual on Digital Technology as Support for Monitoring and Assessment, created within the framework of the e-Schools pilot project, CARNET, 2017

**Annex A.** Examples of testing and their assessment in various subjects

**Annex B.** Tools enabling digital testing

## Glossary

**Assessment** is systematic collecting of data in the process of learning and on the accomplished level of achievement of educational outcomes, competences, knowledge, skills, capabilities, independence and responsibility towards work, in line with pre-defined and accepted forms, procedures and elements. Assessment comprises three approaches to assessment: assessment for learning, assessment as learning, assessment of learning. **Assessment for learning** serves to enhance and plan future learning and teaching. **Assessment as learning** refers to active involvement of students in the process of assessment, as well as the development of students' autonomous and self-regulated approach to learning. **Assessment of learning** is the grading of the level of student achievement. Assessment for learning and assessment as learning do not result in a grade, but in high-quality feedback.

**Monitoring** is systematic perception and recording of observations on the accomplished level of achievement of educational outcomes with the purpose of fostering learning and testing the accomplished level of achievement of educational outcomes and expectations defined by national, subject and cross-subject curricula, syllabi, as well as vocational and school curricula. It comprises all three approaches to assessment: assessment for learning, assessment as learning and assessment of learning.

**Testing** is the evaluation of the accomplished level of achievement of educational outcomes and expectations in a school subject or subject area and other forms of work at school throughout the school year.

**Grading** is the assigning of a numerical or descriptive value to the results of monitoring and assessment of the student's work.

**Elements of assessment** respond to the question of what is assessed in a certain subject. They are prescribed by the curricula of school subjects.

**Formative assessment** (assessment as learning and assessment for learning) is the assessment of student achievement taking place in the process of learning and teaching in order to provide information about student progress and to enhance future learning and teaching, to foster students' reflections on learning, to identify deficiencies in learning, to recognise students' strengths, as well as to plan future learning and teaching (see: Assessment for learning and Assessment as learning).

**Assessment methods** are the forms and procedures of assessing the achievement of educational outcomes in each school subject. Teachers can use certain methods in different approaches to assessment, with some methods being more appropriate for specific approaches. In terms of assessment for learning they use rubrics, checklists, posing questions to students, anecdotal notes, student maps, observations, exit tickets etc. In terms of assessment of learning they use written and oral testing of knowledge and skills, student maps (so-called portfolios), practical work, student reports (e.g. on practical work, research), student projects, debates, essay tasks, simulation etc. In terms of assessment as learning the methods are based on self-assessment methods or self-reflection and peer assessment (e.g. self-assessment by using rubrics and checklists, learning journals, consultations with teachers).

**Educational expectations** are clear and unambiguous statements on what is expected of the student within a certain domain, at the end of a certain educational cycle and within a cross-curricular topic. Educational expectations are defined as desirable levels of knowledge, skills and attitudes that become more complex and lead to greater competence within cross-curricular topics through progress in the education system.

**Educational outcomes** are clear and unambiguous statements on what is expected of the student within a certain domain, macro-concept, concept or a subject area in a year of learning and teaching of a school subject. Outcomes can be defined as knowledge, skills, attitudes or values.

**Rubrics** are sets of descriptions of different quality levels of a certain achievement or activity assigned to students during the process of learning or performing an activity to be able to monitor and regulate the extent to which students have mastered the knowledge and skills they were expected to acquire.

**Self-regulation of learning** refers to a self-directed process which implies the setting of personal goals of learning, as well as monitoring, managing and adapting the cognitive, emotional and motivation processes and behaviours directed towards achieving the set goals.

**Student self-assessment** is a metacognitive process of raising awareness and reflecting on one's own learning process and achievements.

**Summative assessment** (assessment of learning) is assessment which includes the evaluation of the level of the student's achievements at the end of the learning process (a learning unit term and a year of learning and teaching). As a rule, it results in a grade (see: Assessment of learning).

**Peer assessment** is a form of collaborative regulation of learning which is applied as a method in assessment as learning. The student is actively involved in the assessment of learning and achievements of his/her peers, he/she assists them in observing, supervising and regulating the learning process by providing peer feedback.

