



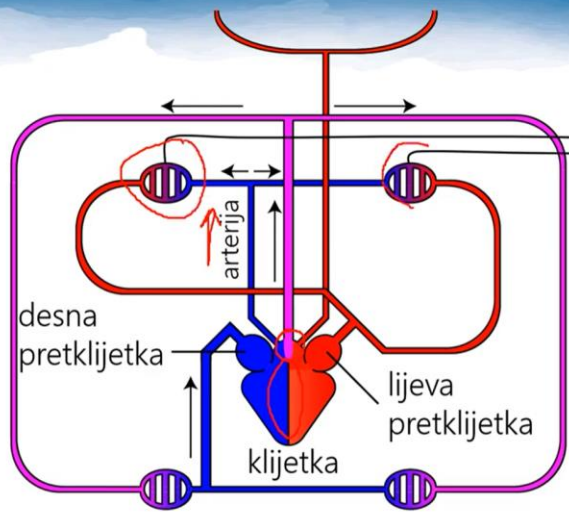
REPUBLIKA HRVATSKA
Ministarstvo znanosti
i obrazovanja



Covid19 – Croatian answer to the challenges in education

Hrvoje Balen, Branka Vuk, Lidija Kralj

Prijenos tvari kroz tijelo gmazova



Izvor: Pixabay, Wikimedia commons,
https://cdn.pixabay.com/photo/2015/11/23/07/31/iguana-1057830_480.jpg
https://upload.wikimedia.org/wikipedia/commons/thumb/2/2e/Blutkreislauf_Reptilien.svg/965px-Blutkreislauf_Reptilien.svg.png



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Projekt Podrška provedbi
Cjelovite kurikularne
reformе (CKR)



Primjer 1.

$$a) (-10)^3 = (-10) \cdot (-10) \cdot (-10) = -1000$$

$$b) -10^3 = -10 \cdot 10 \cdot 10 = -1 \cdot 10 \cdot 10 \cdot 10 = -1000$$

$$c) (-10)^4 = (-10) \cdot (-10) \cdot (-10) \cdot (-10) = 10\,000$$

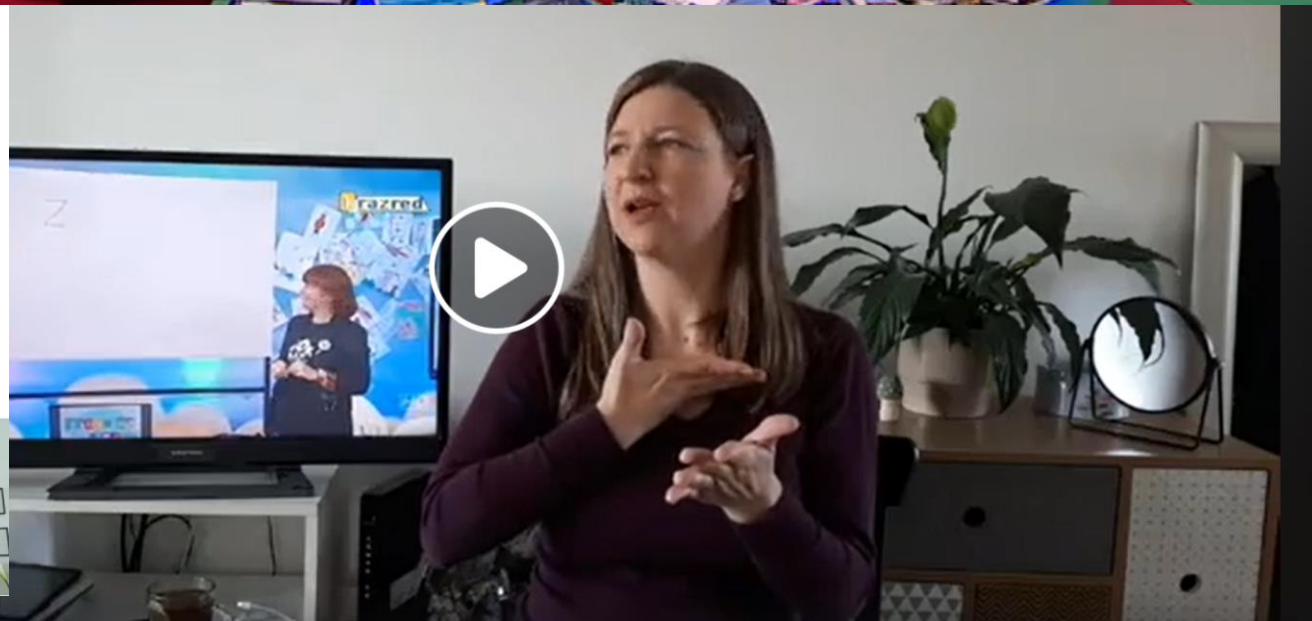
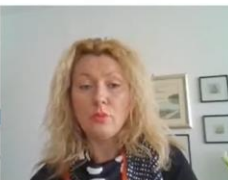
$$d) -10^4 = -10 \cdot 10 \cdot 10 \cdot 10 = -1 \cdot 10 \cdot 10 \cdot 10 \cdot 10 = -10\,000$$



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Croatian context

1300 schools, 460 000 students, 60 000 teachers

Institutions involved nationally

Measures taken:

- Centrally governed by the MoE
- Students age 7 - 10 – TV lessons
- Students age 11 – 18 – video lessons + online platforms



Two weeks before school closure

First phase

- Preparation of guidelines, handbooks and tutorials for teachers, principals and students
- Different digital tools for distance learning
- Planning the organizational scheme
- Planning scenarios for closing schools:
 - 1 school; 1 county
 - several counties; whole country

Second phase

- Recording of video lessons for students aged 11 – 18 started
 - Mentor teams (teachers)
- Coordination with national TV, planning broadcast for students aged 7 – 10
 - National TV
 - Mentor teams (teachers)

Organizational plan for schools

Virtual classroom for all principals led by MoE

Virtual staffroom in each school led by principal

Virtual staffroom in each school led by principal

Virtual classroom for each class led by class teacher

Virtual classroom for each class led by class teacher

Virtual classroom for each class led by class teacher

Virtual classroom for each class led by class teacher

Communication with parents

Communication with parents

Support – multiple levels and agents

Virtual classroom for all principals led by MoE

Virtual classrooms for subject teachers led by MoE mentors

Sharing information – webpage MoE

Sharing information – webpage School for life

CARNET webpage on online education (tools, tips, instructions)

Helpdesk - CARNET

Helpdesk - MoE

All Telecommunication companies provided free broadband and SIM cards to all primary school students and students from lower-income families

Publishers and owners of edu apps provided free access to learning resources

Learning resources

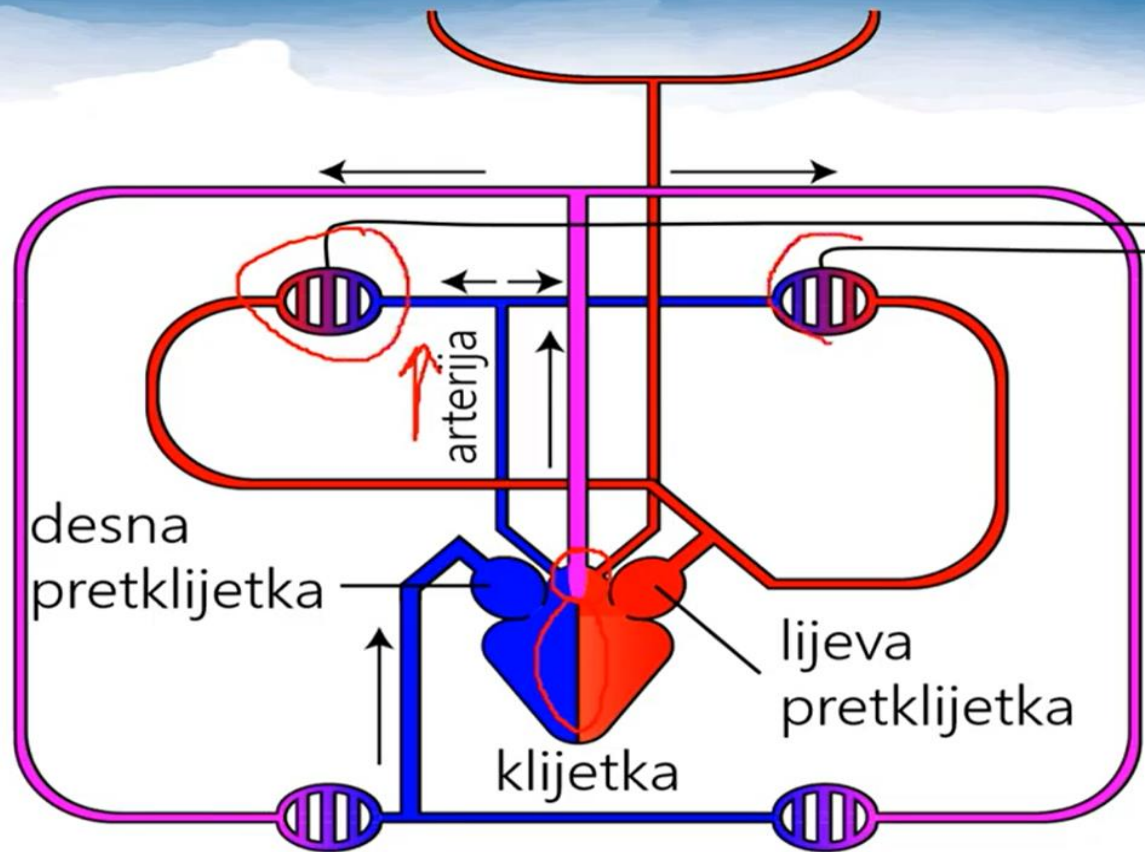
- National curriculum and plan, average plan for middle March
- National schedule – the same for all schools
- Delivering lessons for all
 - basic set, teachers can upgrade
- Mentor teams are creating learning resources for 12 years of primary and secondary education
 - 300 video lessons per week – students 11 - 18
 - 25 hours of new TV programme per week – students 7 -10







Prijenos tvari kroz tijelo gmazova



Izvor: Pixabay, Wikimedia commons,
https://cdn.pixabay.com/photo/2015/11/23/07/31/iguana-1057830_480.jpg
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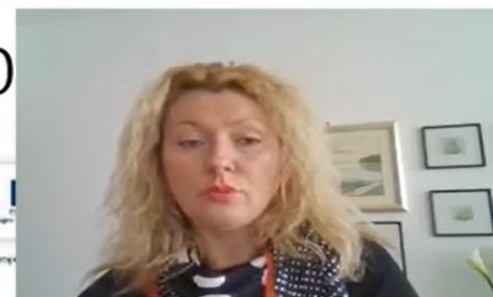
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Ministarstvo znanosti
i obrazovanja

EU
2020
HR Hrvatsko predsjedanje
Vijećem Europske unije

Always-a-backup principle

Using multiple channels for publishing and sharing information

- TV channels – HRT3, SPTV, RTL2
- Webpages- MoE, School for life, Agencies
- YouTube channels
- Mail
- Messaging apps
- Social networks

Technical solutions

- [AAI@Edu.Hr](#) all primary and secondary schools use nationwide authentication for all students and teachers
- Different platforms accessible with [AAI@Edu.Hr](#)
 - Teams
 - Yammer
 - Moodle
 - Google classroom
 - Edmodo

Distributed set of systems, not a single platform –
distributing the load

We used to have 100 access/minute
now we have 1100 access/minute





OŠ Ludina



4.A LUDINA 2020



8.C LUDINA 2020



3.A LUDINA 2020



2.A LUDINA 2020



5.A LUDINA 2020



PO Grabričina K123 OŠ
LUDINA 2020



PO Okoli OŠ LUDINA
2020



PO Katoličko Selište OŠ
LUDINA 2020



PO Gornja Vlahinička OŠ
LUDINA 2020



8. B LUDINA 2020



7.A LUDINA 2020



6.B LUDINA 2020



8. ABC_Njemački



6. AB_Njemački



8.A LUDINA 2020



5.B LUDINA 2020



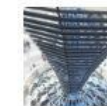
**PO Grabričina 4.a OŠ
LUDINA 2020**



4.B LUDINA 2020



5. AB_Njemački



4. B_Njemački



Aktivnost

Čavrljanje

Timovi

Zadaci

Kalendar

Pozivi

Datoteke

...

Aplikacije

< Svi timovi



7.A LUDINA 2020

Općenito

- 01. Hrvatski jezik
 - 02. Likovna kultura
 - 03. Glazbena kultura
 - 04. Engleski jezik
 - 05. Matematika
 - 06. Biologija
 - 07. Kemija
 - 08. Fizika
 - 09. Povijest
 - 10. Geografija
 - 11. Tehnička kultura
 - 12. Tjelesna i zdravstvena kultura
 - 13. Informatika
 - 14. Vjeronauk
- Materijali
- 1 skriveni kanal



Općenito

Objave

Datoteke

Bilježnica za predmete

Zadaci

Ocjene



TOMISLAV PAVLOVIC je timu dodao Valentina Havočić.

19. ožujka 2020.



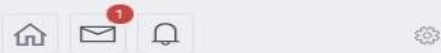
Matija Krmek 19.03 11:02

Dragi učenici,

Ovdje možete vidjeti dvije slike:

1. Kako izgleda vaš dan u virtualnim učionicama i koje su vaše svakodnevne obaveze.
2. Na koji način i kada možete učiteljima postavljati pitanja.





 O365.SKOLE.HR GROUPS +

8.a Engleski jezik - OŠ Vladimira Vi...

6.b Engleski jezik - OŠ Vladimira Vi...

8.b Engleski jezik - OŠ Vladimira Vi...

7.b Engleski jezik - OŠ Vladimira Vi...

Zbornica(Osnovna škola Vladimira ...

6.a Engleski jezik - OŠ Vladimira Vi...

7.a Engleski jezik - OŠ Vladimira Vi...

onkyikety

 All Company 20+

+ Create a group

✨ Discover more groups

 PRIVATE MESSAGES +

Agata Štajcer

Jana Prugovečki

Edita Jurušić

Stela Kovačić

Viktorija Brcković

Melita Posavčić

Gabrijela Salar

Luka Vranešević

+ Create a message



8.a Engleski jezik - OŠ Vladimira Vidrića, Kutina PRIVATE

✓ Joined

 NEW CONVERSATIONS ALL CONVERSATIONS FILES SEARCH

Update Question Poll Praise

Share something with this group...


Katarina Duhović – 22 hours ago

Dear students, please send me your likes if you did the task successfully. Draga djeco molim vas pošaljite povratnu informaciju o ovom novom načinu rada. Jeste li uspjeli? Kako vam se čini?
Greetings,
Your English teacher KD



8.ab Revision 4

8.a Engleski jezik - OŠ Vladimira Vidrića, Kutina > Files

LIKE REPLY SHAKE EDIT

Nikolina Komjenović, Rene Budetić, Marijana Bogdan, and 9 others like this

Seen by 13

MEMBERS (21)



GROUP ACTIONS

View Group Insights

PINNED

Add



Add files or links that are important to this group.

RELATED GROUPS

+ Add a related group

ACCESS OPTIONS

 Subscribe to this group by email

 Post to this group by email

 Embed this feed in your site

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 E U
2020
H R
Hrvatsko predsjedanje
Vijećem Europske unije

Microsoft Teams

All teams

6.c

- General
- Engleski jezik I
- Geografija
- Glazbena kultura
- Hrvatski jezik
- Informatika
- Likovna kultura
- Matematika
- Njemački jezik II (izborni)
- Povijest
- Priroda
- Tehnička kultura
- Tjelesna i zdravstvena kultura
- Vjeronauk-Katolički (izborni)

Search or type a command

Matematika Posts Files Notes +

OneNote Matematika_Notes

File Home Insert Draw View Help Open in browser

Calibri Light 20 B I U

O: Gospodin Petrić je u dobitku 1000kn.

Sofia Jačimović

5. Gospođica i gospodin Brkić žele urediti svoj stan. Kako nemaju dovoljno novaca za uređenje stana trebaju posuditi novac od banke. Od banke su posudili 1323kn za stan. Ako su gospođica i gospodin Brkić od prije banci dugovali 1578 kn, koliko duguju nakon što su posudili još 1323kn za uređenje stana?
R: $-1578+(-1323)=-2901$
O: Gospođica i gospodin Brkić banci duguju 2901kn.

Hana Havelka

6. Mirta banci duguje 3000kn. Dobila je plaću od 5000kn. Je li Mirta otplatila dugove banci? Ako je koliko joj je ostalo?

My Classes

5a English, OŠ Jabukovac
gđa. Anic-Antic • English



6a English, OŠ Jabukovac
gđa. Anic-Antic • English



6b English, OŠ Jabukovac
gđa. Anic-Antic • English



7b English, OŠ Jabukovac
gđa. Anic-Antic • English



Upcoming



No classwork current

[View all classwork](#)

Google Učionica

7.a razred OŠ Blato

14 učenika

Rok je danas

- 08:00 – Zašto se krećemo II.
- 08:45 – MOLEKULE Molekule elementarnih t...
- 19:00 – Metoda supstitucije

7.b razred OŠ Blato

14 učenika

Rok je danas

- 08:00 – MOLEKULE Molekule elementarnih t...
- 08:00 – MOLEKULE Molekule elementarnih t...
- 08:30 – Zašto se krećemo II.

8.a razred OŠ Blato

14 učenika

Rok je danas

- 23:59 – 23.03. Dijagonala kocke i kvadra
- Ljubio nas je do kraja

Rok je sutra

- 12:00 – Hrvatski jezik u 20. st.

8.b razred OŠ Blato

14 učenika

Rok je danas

- 23:59 – 23.03. Dijagonala kocke i kvadra
- Ljubio nas je do kraja

Rok je sutra

- 12:00 – Hrvatski jezik u 20. st.

- Uredi postavke
 - Korisnici
 - Filtri
 - Backup
 - Vraćanje kolegija
 - Baza pitanja
- Postavke mog profila
- Administracija poslužitelja

Pretraži

Matematika	Matematika 1 sadrži slijedeće teme: <ul style="list-style-type: none">-Realni brojevi- Potencije i algebarski izrazi- Uređaj na skupu realnih brojeva- Koordinatni sustav u ravnini- Linearna funkcija, sustavi jednažbi- Korjeni i potencije s racionalnim eksponentom- Sukladnost i sličnost trokuta- Kružnica i krug
Matematika-priprema za Državnu maturu	Sadržaji za pomoć kod pripreme ispita Državne mature iz Matematike
Matematika 3	Matematika za treći razred smjer elektrotehničar, tehničar za računalstvo, tehničar za elektroniku.
Matematika 4 ***: Karolina Brleković	Matematika za 4 razred
Matematika drugi razred Nastavnik: Karolina Brleković	
Matematika za prvi razred Nastavnik: Karolina Brleković	
Mierenia u elektrotehnici	

Leaning on Comprehensive curricular reform and e-Schools project

- Since January 2018 – virtual classrooms for all teachers
- Since December 2018 over 50 000 teachers in blended learning – virtual classrooms + F2F training twice per year, counselling visits to schools
- Mentoring scheme
- Training for digital skills since 2015 (online and F2F) through e-Schools project, based on DigCompEdu

Equipment – Government & EU funded projects

- **In the past 2 years**
 - 30 000 notebooks for teachers
 - 100 000 tablets for students
 - 13 000 notebooks for schools
 - MDM established for student devices
- **In 2016**
 - device per teacher (laptops, hybrids, tablets)
 - equipped classroom in 150 schools with 30 student devices (tablets) - which can now be distributed and taken home



Mentor teams - scaling up and empowering

International team

Education and support for
Mentor team

Training and resources creation
from spring 2018

Mentor team

Education of teachers,
councillors and future mentors
From September 2017

Experimental schools

Online training
f2f meetings
Support and coaching
From April 2018.

All schools
January 2019



From 0 to 100%

- Quantum leap into 22nd century
- All schools involved in comprehensive reform within 2 years
- Move to online from one county - Istria on Monday, to all the other regions on Wednesday of the same week, BUT
- **All schools transformed for distance learning in 1 week**

Number of users after a week

Office 365

352 669 users
52 362 teachers
300 307 students

25 313 MS Teams
(classrooms)

G Suite for Education

47 612 users
20 575 classrooms

Moodle (3 different instances/tenants)

248 950 users
2663 courses (classrooms)

49 230 unique users daily
(on March 24th)

Total: 48 551 virtual classrooms



Challenges of moving school online

Systems scaled for a much smaller number of users (and primarily blended learning):

- Moodle (Loomen) - from 1 to 3 tenants; simultaneous users a bottleneck
- AAI infrastructure (AAI@EduHr) - number of logins per minute/hour (*from 100 to 1100 per minute*)
- Software licence limits for the Croatian edu system
- Limitation of cloud services globally due to Corona
- Limitation of the local services which were planned for upgrade, but have not yet been upgraded

Many technological adaptations to get the system running – **all settled in a week**

Challenges of moving school online

- Skills developed primarily for the use of technology in the classroom (through eSchools and School for Life projects), not for fully online – different set of skills
- Lack of teaching materials for all subjects and grades, video lessons to be developed
- Short time for the creation of necessary number of video lessons needed per week (approx. 300 + 25 hrs/week of TV lessons)
- Support for the entire education system (cca 1 million users – teachers, children, parents – 1/4 of Croatia population)

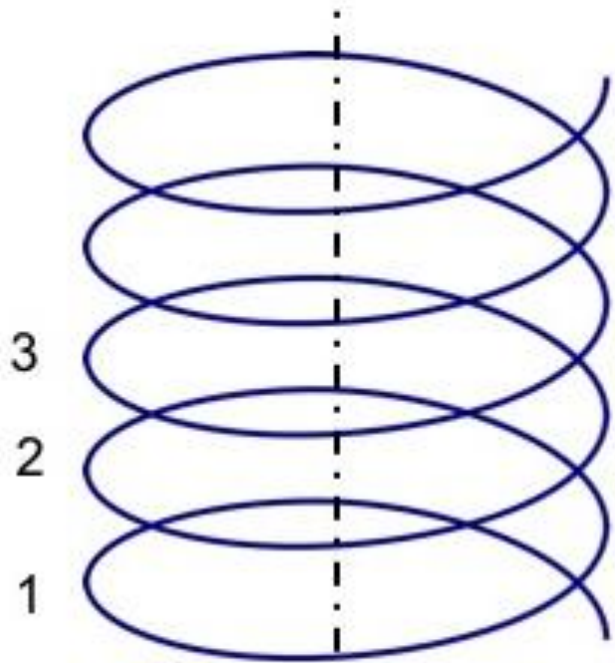


Lucky breaks :)

- Teachers' digital skills previously improved through School for Life and e-Schools projects (DigCompEdu for digital skills through e-Schools; virtual classrooms for teacher development through School for Life)
 - Now virtual classroom are used for communication with the Ministry
- Mentor teams established
- Schools equipped previously through School for Life and e-Schools projects (e-Schools teacher devices, School for Life student devices)
- Some digital learning resources developed through e-Schools and School for Life projects + digital learning materials provided free of charge by the publishers and software companies (e.g. Matific)
- Finalized adding G Suite for Education to the portfolio (Office 365 & Moodle) the same week as decision to move schools online



How to be ready for changes in education



- Lean and agile management
- Continuous improvements - transferring knowledge from each day/activity to another one
- Fast learning and even faster knowledge sharing
- "Never-ending story" - changes and innovations in schools must be continuous

<http://skolazazivot.hr/>
<https://skolazazivot.hr/video-lekcije/>
[https://www.youtube.com/channel/UC2FkzJuf
ULIFv7f2RO-tgjw](https://www.youtube.com/channel/UC2FkzJufULIFv7f2RO-tgjw)

Hvala

@LidijaKralj



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20
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