



# Open-access repositories as a precondition for the development of open education

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# Introduction

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- In this presentation we will discuss open-access repositories of scientific and educational content with the example of the repository created within the project "e-Schools: Establish a system for digitally mature schools (pilot project)"
- Results of the research on the impact of the use of digital content repositories in the e-Schools project will be presented

# Open repositories

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- Digital repository is an online archive for the storage of digital content that includes scientific and professional articles, digital educational content and other types of digital content that arise as a product of scientific and educational activity
- Clifford A. Lynch (2003) identified the repositories as the key scientific infrastructure in the digital age
- Open repositories are available free of charge
- According to Jacobs (2006) an open-access repository or open archive is a digital platform that holds research output and provides free, immediate and permanent access to research results for anyone to use, download and distribute

# Benefits of open repositories

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- Opening up outputs of the institution to a worldwide audience;
- Maximizing the visibility and impact of these outputs as a result;
- Showcasing the institution to interested constituencies – prospective staff, prospective students and other stakeholders;
- Collecting and curating digital output;
- Managing and measuring research and teaching activities;
- Providing a workspace for work-in-progress, and for collaborative or large-scale projects;
- Enabling and encouraging interdisciplinary approaches to research;
- Facilitating the development and sharing of digital teaching materials and aids, and
- Supporting student endeavours, providing access to theses and dissertations and a location for the development of e-portfolios. (Patel, 2014)



# Croatian repository of teaching materials

## “Edutorij”

- Edutorij is a repository of digital educational content that enables the publication, access, storage and sharing of digital educational content
- The following types of digital educational content can be stored: manuals, textbooks, books, lectures, workbooks, task collections, atlases, online courses, educational games, learning scenarios and lessons, lectures and scripts, final and seminar papers, educational modules, papers, journals and all other content related to education and teaching programs
- All the materials stored in Edutorij are described by metadata based on the Learning Object Metadata standard developed by the Institute of Electrical and Electronics Engineers (IEEE Standards Association)

O EDUTORIJU ▾

**EDUTORIJ**

### Znanje na jednom mjestu

za pohranu, objavu, razmjenu, ocjenjivanje i dohvat digitalnih sadržaja. Pridružite se mreži stručnjaka koji predano rade na razmjeni obrazovanja.

ili kolekcije   **Razina obrazovanja**   Razred

**CARNET** znanje povezuje   e-škole   Uspostava sustava baziranih na digitalnoj znanosti i tehnologiji   EUROPSKA UNIJA Zajedno do boljeg EU

**1867** materijala   **302** kolekcija   **6245** korisnika

**PRIJAVA**

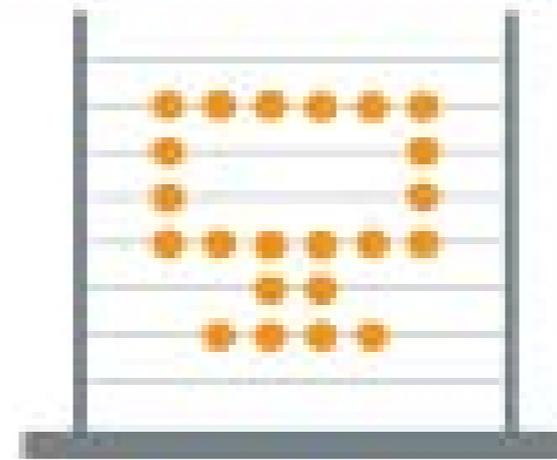
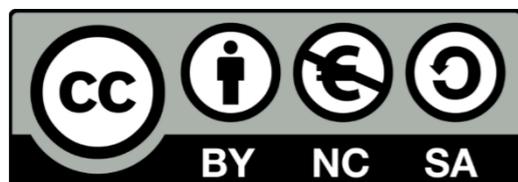
# Main features of “Edutorij”

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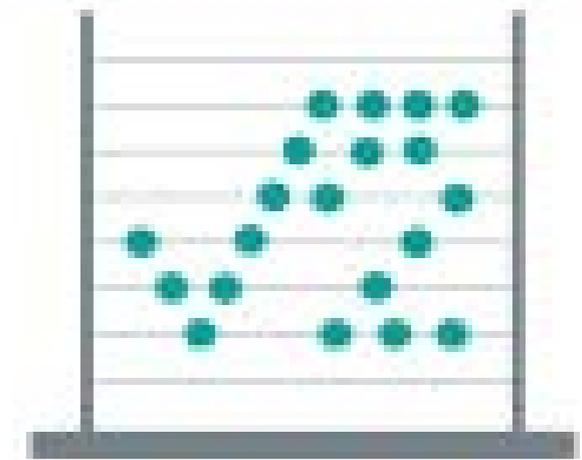
- Content can be organized in collections, which each user can create through Edutorij. The collections can be:
  - private - closed only for one or more persons on a call
  - public - anyone who wants them can access either
  - arranged - closed, but anyone can request access to the collection manager.
- Editorial content does not necessarily go through the review before it is published, but for those who are reviewed it is included with the content itself. It is the responsibility of the author and content owner to ensure that it is accurate, expert, and grammatically correct.
- Content quality indicators in the repository can be:
  - social popularity of content - likes, share, ratings and comments of other system users
  - peer review of teacher materials by its peers
  - the "Editor's Choice" tag that Edutorij editors provide with some content.

# Open content in the repository

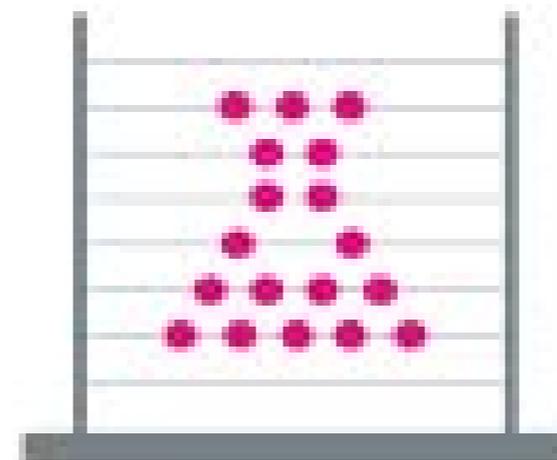
- Mathematics, chemistry, biology and physics curriculum
- Materials focused on problem solving, critical thinking, transversal skills, research and problem based learning
- Materials are created by the principal of universal design (Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.)
- Licensed under a Creative Commons license



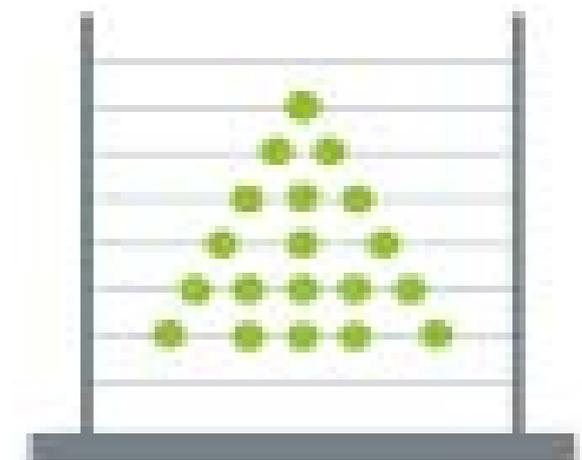
Fizika



Matematika



Kemija

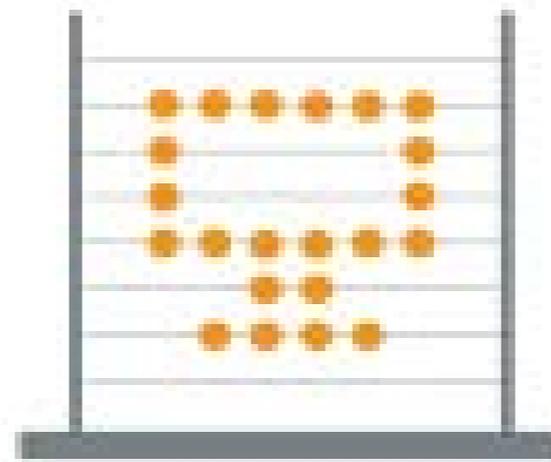
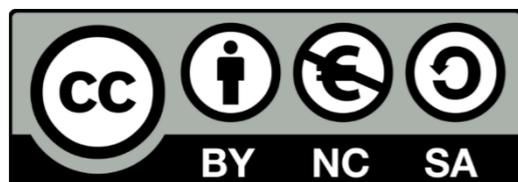


Biologija

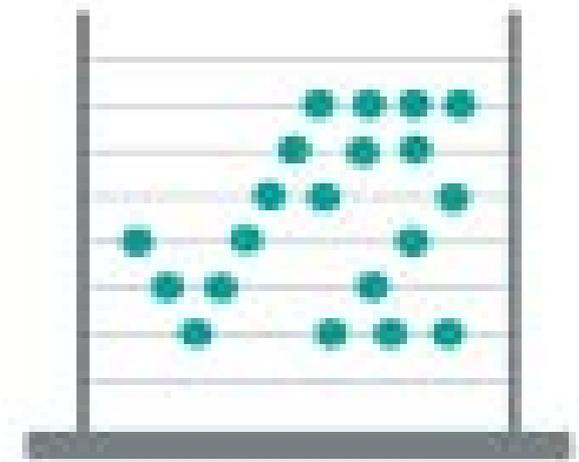
**1. RAZRED**  
srednje škole

# Teaching scenarios in the repository

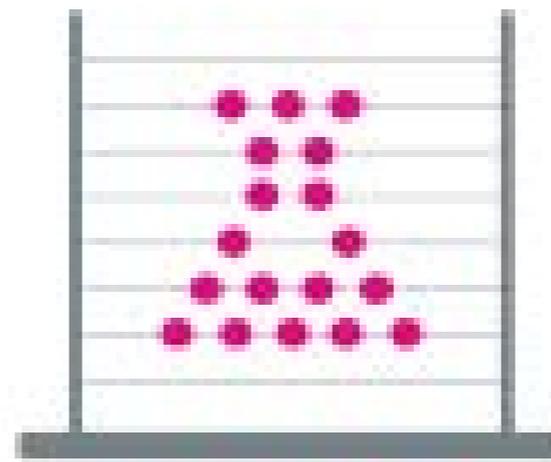
- Concept of implementation of digital technology in teaching based on contemporary pedagogical approaches.
- Teaching scenarios support:
  - innovative teaching ideas
  - active learning
  - teacher as a mentor and
  - inclusion of all three levels of complexity in relation to teacher's digital competence
- Licensed under a Creative Commons license



Fizika



Matematika



Kemija



Biologija

**7. RAZRED**  
osnovne škole

# New law on textbooks and Edutorij

- Under the new law on textbooks, all digital content for teaching will be on the central repository - Editorij
- Agency in charge will check if the proposed educational materials are in accordance with the scientific principles and ethical standards, as well as their pedagogical, psychological and didactic-methodical appropriateness for use in teaching



# Research on the impact of the use of digital content repositories in the e-Schools project

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- As part of the e-School project, a scientific research was carried out within of which the attitudes of the primary and secondary school teachers were examined
- The research has shown a positive influence on teachers' use of the repository on the development of digital competences of students. In addition, pupils whose teachers use the repository perceive less of the disadvantages of using information and communication technologies (ICT) in teaching
- Teachers using the repository have more general and specific digital competencies as well as a more positive attitude towards ICT
- About 50% of teachers claim that although they did not use the repository, they support their development for learning and teaching purposes
- Teachers who used the repository of educational materials in the final examination had a more positive attitude towards ICT than teachers who did not use the repository.

# Conclusion

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- The development of information and communication technologies enabled the creation of digital content, their publication and sharing over the Internet
- Creating collections of such content with the help of repositories for their storage and retrieval resulted in the availability of scientific and educational content
- Open-access repositories of digital materials are an infrastructure prerequisite for affirmation of open science and open education
- Openness makes science and education more accessible to all levels of the population, which can lead to the progress of the society



# Contact

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