

**SOCIAL AND EDUCATIONAL  
ENVIRONMENT**

# INTEGRATION OF OPEN EDUCATIONAL RESOURCES IN THE TEACHING OF ECONOMICS IN HIGH SCHOOL

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***Abstract:** I have continued the work started earlier to identify open educational resources that can be used in the teaching of economic subjects in the classroom, dealing now with those related to the discipline of Economics. I discovered some different O.E.R., which use various educational applications for the lesson. Some of these resources propose to the teacher to integrate playful activities (e.g. games) in the activity of teaching, learning and assessment. On the other hand, the use of O.E.R. it allowed me to update the content of some lessons in some outdated textbooks, published many years ago. In the absence of digital textbooks for the subject of Economics, these resources represented "a breath of fresh air" to change something in the educational process and make the lessons more attractive for students.*

***Keywords:** O.E.R., economics, educational applications, school textbooks, gamification, digital pedagogical competence*

## I. Introduction

The open educational resources analyzed in this paper were identified by the undersigned on the web page <https://digitaledu.ro>, which I described shortly in one of my previous works, regarding the open educational resources dedicated to entrepreneurship education (Curta, N.C., 2022). This web page, through its structure and the resources it houses, represents in miniature what the Virtual School Library, managed by the Romanian Ministry of Education, should be in large.

The educational resources posted there have been evaluated by specialists working on the digitaledu.ro platform according to the criteria presented in their own evaluation sheet (Istrate, O., and Ștefănescu, D., 2021). Some of these resources have been approved, being marked accordingly on the online platform. Engaging students in classroom activity has been a challenge for me, as well as for other teachers around the world, for the same reasons (Istrate, O, 2017):

- Lack of motivation for learning.
- Proposed exercises and problems that do not seem to have immediate applicability.
- The topics or assignments in the textbook do not correspond to the immediate needs of the students.

On the other hand, the rapid development of information and communication technology has offered the possibility of improving the educational process, including the textbooks used to teach the subject of Economics.

## II. Some considerations about Economics textbooks

The officially approved Economics textbooks for the 11th grade of high school and presented in this paper are posted in pdf format on the web page dedicated to school textbooks, available at [manuale.edu.ro](http://manuale.edu.ro). There are six economics textbooks published by publishing houses in the country, of which five textbooks belong to publishing houses in Bucharest, and one textbook was published by a publishing house in Deva. These publishing houses are the following: Niculescu ABC, Economica Preuniversitaria, Sigma, Corint and Humanitas Educational, all from Bucharest, respectively the Corvin publishing house from Deva. The oldest manuals were published in 2006, and the most recent was published in 2014 (see table 1).

Table 1. Characteristics of Economics textbooks published in Romania:

No. crt.	Publisher	City	Year of publication	No. pages	No. authors	Structure of the textbook
1	Humanitas Educațional	Bucharest	2012	160	2	6 chapters 20 lessons 2 annexes
2	Corint	Bucharest	2014	144	2	5 chapters 16 lessons
3	Economica Preuniversitaria	Bucharest	2006	192	4	6 chapters 23 lessons
4	Corvin	Deva	2006	148	2	8 learning units 22 lessons 8 annexes
5	Niculescu ABC	Bucharest	2012	144	4	19 lessons
6	Sigma	Bucharest	2006	162	4	4 themes 24 lessons

Source: data processed by the author from the web page [manuale.edu.ro](http://manuale.edu.ro)

Next, I will give a brief description of these manuals, based on the information obtained from the manuals downloaded in pdf format from the mentioned website. In the classroom activity, I used three of the textbooks presented in the table above, namely those from the publishers Humanitas Educațional, Corint and Economica Preuniversitaria.

The manual from the Humanitas Educațional Publishing House is distinguished by the fact that it uses the firm's level I exercise method, which runs through the manual like a red thread. Each of the lessons in the textbook has a conclusion, activity projects and an assessment page at the end. It comprises assessment tests with different types of items, plus three summary tests grouped by lesson, answers for the assessment pages and summary tests. The manual has two annexes, one of which refers to "Measuring the variation of economic quantities", and the other to "Macroeconomic indicators and variables".

The manual from the Corint Publishing House has a summary and an evaluation part for each chapter. Each lesson has at the end "key concepts of the lesson" and some tasks. They contain different types of questions and problems to solve, and at the bottom of the page are the answers to the problems. The assessment part contains requirements related to the definitions and formulas in the textbook, different types of questions and problems to be solved.

The textbook published by Editura Economica Preuniversitaria has the classic structure of a high school textbook. Each lesson has applications and learning activities, and the assessment part includes problems to solve and assessment tests with different types of questions. Answers to tests and problems are found at the end of the textbook.

The Economics textbook published by Corvin Publishing House has a special feature, being organized by learning units. In the textbook are inserted quotes and short biographical notes about the world's great economists. Each lesson has a section dedicated to further reading. To these is added an "applications/assessment" section, which includes questions, essays, problems to solve and text comments. At the end of the manual there is a selective bibliography and several appendices.

The manual published by the Niculescu ABC Publishing House has several distinctive features compared to the previously presented manuals, namely:

- Selective Bibliography.
- Glossary of terms for each lesson.
- Fragments of articles published in the press on various economic topics.

- Short biographical notes of famous economists.
- A list of web pages (links).

Otherwise, the manual has the familiar classic structure. Each lesson has an assessment part, which includes quizzes, problems to solve, text analysis, case studies, but also solutions for the assessment part.

The textbook published by Sigma Publishing House is structured by topics, each topic having a certain number of lessons, an additional reading, and an evaluation test. Each topic is organized by learning units, having some distinct elements:

- Elements of synthesis.
- Key terms.
- Dictionary of terms for each lesson.
- Quotations from the works of famous economists.

Each chapter includes some recapitulatory topics. The assessment part is called "Questions, applications, exercises" and contains problems to be solved as well as questions of different types. At the end of the manual, you will find answers to the assessment tests, as well as the bibliography that is the basis for the creation of the manual.

Considering what was written above, we can formulate some conclusions about high school textbooks for the discipline of Economics, namely:

- The textbooks comply with the school curriculum approved by the ministry.
- Neither the school curriculum nor textbooks have not been updated recently.
- At least for now, there is no digital textbook for this discipline.
- Some textbooks, through their content and structure, show the authors' interest in producing a quality work.
- Certain textbooks aimed to contribute to the realization of an economic culture of high school students.
- The most innovative is the manual published by Humanitas Educational Publishing House, which uses the firm's level I exercise method, with concrete examples and activities in each chapter.

### **III. Open educational resources that can be used to teach Economics in the classroom**

Open educational resources are a way to motivate students to actively participate in classes, regardless of whether the lesson is taught in a classical or e-learning style. The integration of playful elements (e.g. games, animated

videos, etc.) within the lessons is necessary and contributes to increasing interest and motivation for learning (Istrate, O., 2017).

On the other hand, gamification (i.e. the use of didactic games) is one of the methods that allows students to actively participate in classes, to learn by "having fun" and playing with their peers, participating in a positive competition that makes learning to be more attractive (Aleksić-Maslač, K., Rašić, M., and Vranešić, P., 2018).

Among the open educational resources identified on the [digitaledu.ro](http://digitaledu.ro) web page there are some that use didactic games either in their traditional form, such as the indoor game Monopoly, or in their virtual form (Cashflow and Kahoot). They are used to learn and practice the basics of certain lessons. The educational application Kahoot is a gamification tool used both to assess students' knowledge and to motivate them to be more active in the classroom (Aleksić-Maslač, K., Rašić, M., and Vranešić, P., 2018).

The table below shows the educational resources developed for the Economics discipline and their characteristics (see table 2). The resources are posted on the [digitaledu.ro](http://digitaledu.ro) platform in two different sections: Open Educational Resources and Activity Ideas, but also in two different curricular areas: Man and Society (those posted in the Economics discipline) (M.S.) and Technologies (those posted in the Technical Disciplines) (T.).

If we make a comparison with the topics in the school curriculum, the resources presented in the previous table cover most of the topics, except for two chapters - "Introduction to Economics" and "Open Economy", for which I did not find any open educational resources. Also, I did not find any educational resource for some of the lessons in the manual, which are part of the chapter "The market - meeting place of economic agents", namely:

- "Demand-offer-price relationship in the market economy"
- "Money market and money"
- "World market. Currency market"
- "Economic balances and imbalances"
- "Economic growth and development. Fluctuations in economic activity".

The table shows that these resources were developed relatively recently, in the period 2018-2023. In the absence of a powerful search engine of the platform, the resources are quite difficult to find, because they have been posted in different curriculum areas and with different subject names – Economics or Technical Disciplines.

**Table 2.** Characteristics of O.E.R. developed for the Economics discipline:

No crt.	The name of O.E.R.	The type of activity	Support used	Workload for students	Way of working	Working time	Year of publication/ validation	Section	Curricular area
1	Needs and resources	---	Quizlet	Exercise	---	---	2020	O.E.R.	Technical disciplines (T.)
2	The consumer and his rational behaviour	Homework	Google Slides/ Canva/ Mentimeter/ Genially	Oral presentation Virtual notice board	In colaborare	1 week	2018	Activity Ideas	Economics (M.S.)
3	The demand	---	Learningapps	Exercise Playful test Didactic game	---	---	2023	O.E.R.	Technical disciplines (T.)
4	Manufacturer/ the entrepreneur and his rational behavior	Homework	MindMeister Bubble.us	Concept map Virtual notice board	Individual	1 week	2018	Activity Ideas	Economics (M.S.)
5	Use of production factors. The profit	Homework	(*)	<i>Didactic game</i> <i>Cashflow</i>	Individual	---	2018	Activity Ideas	Economics (M.S.)
6	Cost and profit	---	Liveworksheets	Worksheet Exercise	---	---	2023	O.E.R.	Technical disciplines (T.)
7	Production cost	---	Liveworksheets	Worksheet Exercise	Indepen-dent activity	---	2023	O.E.R.	Technical disciplines (T.)
8	The offer	---	Learningapps	Exercise	---	---	2020	O.E.R.	Technical disciplines (T.)
9	The market – (place of) meeting the economic agents	Homework	Padlet	Collaborative document Virtual notice board	Collaboration between students	---	2020	Activity Ideas	Economics (M.S.)
10	The market – (place of) meeting the economic agents. Forms of the market	Homework	Power Point/ Google Slides/ Prezi/	Oral presentation Didactic game	Collaboration between students	2 hours	2019	Activity Ideas	Economics (M.S.)

No crt.	The name of O.E.R.	The type of activity	Support used	Workload for students	Way of working	Working time	Year of publication/ validation	Section	Curricular area
11	The market – (place of) meeting the economic agents. The competitive mechanism	Homework	MindMeister	Ideas board	Collabora-tion between students	1 week	2018	Activity Ideas	Economics (M.S.)
12	Types of competition and market structures	Class activity	Power Point Kahoot	Oral presentation Crossword puzzle	Individual	---	---	Activity Ideas	Economics (M.S.)
13	Forms of the market	Homework	Padlet	<i>Monopoly board game</i> Virtual notice board	Individual	1 week	2022	Activity Ideas	Economics (M.S.)
14	The capital market. What are stocks and bonds?	Homework	Classtools	Arithmograph	Individual	---	2018	Activity Ideas	Technical disciplines (T.)
15	Maeket definition and classification (**)	---	Learningapps	Didactic game	---	---	2021	O.E.R.	Technical disciplines (T.)
16	Forms of the market: capital market – shares and bonds	Activities suite	Learningapps	Interactive video support material	---	---	2023	O.E.R.	Technical disciplines (T.)
17	Labor market (Job demand)	---	Learningapps	Exercise	---	---	2020	O.E.R.	Technical disciplines (T.)
18	Labor market. The wage	---	Learningapps	Exercise	---	---	2020	O.E.R.	Technical disciplines (T.)
19	The state in the market economy. The state budget	Homework	Bubbl.us Voki Google Sheets	Concept map Public speech Creating an avatar	Individual	2 weeks	---	Activity Ideas	Economics (M.S.)
20	Memorizing the discipline of Economics	---	Google Drive	Worksheet	---	---	2020	O.E.R.	Technical disciplines (T.)
21	Indicators from the economy. Recognizing the calculation formula (review)	---	Wordwall	Summative assessment test Exercise	---	---	2023	O.E.R.	Technical disciplines (T.)

**Note:**

\* - <https://www.richdad.com/apps-games/cashflow-classic>

\*\* - The resource was created for the 11th grade Marketing module.

On the other hand, their integration in the lesson requires knowledge of many educational applications, both by the teacher and by the students. The tasks included in the content of these resources depend on the educational application used to achieve them, such as: virtual notice board, concept map, avatar, collaborative document, etc. From the crowd of these open educational resources, two resources that use didactic games stand out – one virtual (Cashflow) and one social (Monopoly), which represents an element of novelty in the creation of these resources.

#### IV. Conclusions

The integration of open educational resources in the teaching of Economics at the high school (the 11th grade) involves the transition from traditional pedagogical competence to digital pedagogical competence. In relation to these two notions, there is a wide discussion in the specialized literature (Apostolache, 2022).

In the traditional sense, pedagogical competence means knowledge related to scientific content, didactic competences, and managerial competences of teachers. In turn, digital pedagogical competence represents a higher level of pedagogical competence, related to the digitization of the educational process. In this context, the teacher will have to have the ability to improve the classroom activity using information and communication technology. In other words, we will move from teaching in the classic style, to the digitized teaching of lessons.

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