

POST MODERN EDUCATION FOR SUSTAINABILITY

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Abstract: This work represents an analytical investigation into the opportunities to achieve postmodern education by cultivating sustainability as a decisive factor in animating this process. Postmodern education is a new, digitized, interactive, student-focused education, targeted at merging the teaching process of digital teaching methods, techniques, and digital technologies that make the cooperation between students and teaching staff more efficient. Since we are in a post-modern society, education must shed its coat of modernism and firmly step on the path of postmodernism, which will help develop a responsible and educated society that cares for the future of society. The research methodology uses the following methods: analysis, synthesis, induction, deduction, and abduction.

Keywords: sustainability, postmodern education, university, sustainable university, innovative changes

JEL: Q01, Q56, I23

Introduction

Universities are genuine vectors of change that harness human potential and thus bring a significant contribution to enhancing competitiveness in academic institutions. Universities create human values and cultivate existing and new competencies by encouraging and harnessing the full potential of their students, developing innovative teaching methods, and implementing novel technologies. The theory and practice of education are traditionally built on the principles of modernism in terms of hypotheses and ideals of this category of thought. For instance, education contains the toolkit which passes on the models of critical thinking, individual freedom, and progress which are all part of modernism (Lash, 1990). Similarly, the concept of a student as a self-motivated, self-conducted and rational individual equally comes from a modern perspective. Nevertheless, many of these factors are criticized by the postmodernism view. Postmodernism highlights the making of an individual under the impact of exterior factors (language, concepts etc.), different from the truth sources and the role of unconscious desires. Further, postmodernism openly challenges concepts, approaches, existing processes, structures and hierarchies of knowledge.

Content

From a modern perspective, the education role is to help students reach their potential as self-directed and motivated agents and thus become fully capable and autonomous individuals (Lash, 1990). This approach involves modeling from the subjective perspective of the students. From the postmodern view, the role of education is rather questionable. Therefore, postmodernism influences the discussions and decisions on curriculum, pedagogy, structural organization and the role of the teaching staff, yet this is done in a way that is often imperceptible or subtle. Consequently, the postmodernism ideas are integrated within debates in the education field.

Postmodern Education is influenced by a multitude of external factors as follows:

1. *Innovative Changes in the education process* – postmodern education is an adjustable system to a wide range of factors such as: long distance learning, online schooling, interdisciplinary research, focus on global issues of the society, need for efficient and prompt solutions to overcome challenges. Postmodern education tries to come up with concrete solutions for overcoming the main challenges faced by the contemporary society. Accordingly, securing a balanced relationship between the economic, social and environmental aspects becomes one of the chief preoccupations of postmodern education and thus triggers changes within the modern education systems.
2. *Information Technologies* – they have brought a significant contribution to the education system due to implementing different technologies such as e-learning, e-tutoring, interdisciplinary and intercultural education, the so-called elements of the postmodern education that broke stereotypes and demanded an urgent remodelling.
3. *Motivation of the education actors* – if decades ago education actors were driven by the urge to study, discover new domains, get involved in research activities, nowadays, due to the fast paced development of society, the education actors are no longer easily motivated since new horizons are open to explore.
4. *Country Context* – each country, depending on the level of macroeconomic development and education policies tries to adjust to the new contexts and generate novel models of postmodern education which drift far from the principles of modern education.

Another factor with a decisive impact on the education system was the pandemic. The face paced implementation of postmodern education has led to a mixed type of national and European models of education, which highlighted the need for new reforms, deepened the gap between the values of modern education and postmodern one, triggered professional crises of the teaching staff and also crises of the professional development of the future specialists.

In this regard, it is vital to find ways of preserving the best optimizing technologies and important scenarios for modernizing and/ or updating the education process in the open hyperspace of higher education institutions in the country and Europe as well. The postmodern realities of education have openly admitted the priority of the education process over its results, the importance of delivering professional educational services, and at their core it is a certain learning actor with their particular social needs and their personal resources which are visible in the education activities. During the pandemic, postmodern

education has led to the consolidation of long distance learning as an open teaching tool using modern information technologies which provided interaction for all participants to the education process.

The systemic introduction of the information technologies in online education, including social media, was done in due course, and it soon proved to turn into one of the main integrating components of the postmodern education model. Another essential elements were ebooks, online conferences and workshops, online interactive communication between students and teachers on platforms such as MOODLE, ZOOM, GOOGLE MEET, CISCO WEBEX, SKYPE or by email, possibility of computerized testing of the education actors cognitive skills, long distance education, and constant update of various methodological technologies for implementing distance learning.

The postmodern education system cannot be exactly called independent since it combines the best traditions of the classic and modern models and additionally brings innovative teaching technologies, thus mirroring the old and new teaching methodologies in an interconnect and complex network. At the same time, the complex theoretical constructions regarding the education objectives and function of the education system have lost some of their value. Yet, education clients have got plenty of opportunities to study during their lifetime due to the facilities provided by long distance learning, and a wide range of possibilities to train in more than one professional domain by combining work and study and thus saving time and resources.

Postmodern education, regarded as a factor of innovative learning, intends to tutor/ teach not just the person who knows but also the person who acts to determine the ratio between reproductive and productive, active and creative.

The issue of innovative education development is quite relevant since it gets a wide social and scientific audience, and increases the efficiency of education process. The innovative technologies employed by teachers in the higher education system are considered modelling technologies (differentiated learning, problem-based learning, context-based learning, information technology, personality-based learning) (Bondarchuk, 2020). The educator takes into account the content, forms, and methods of the education process in accordance with the objectives and benefits of the innovation.

The innovative process of learning in economic education shows that the issue of education reform is closely linked to finding new and efficient ways for implementing and organizing innovation in education. The quality of training will increase significantly if such technologies are introduced, especially in the case of distance learning and other modern learning models such as e-learning, m-learning (mobile learning), blended-learning, flipped-learning (Gurevich et al., 2015). In the context of cultivating the postmodern education, sustainability becomes a competence, a resource and also a driving force that requires attention and development at all levels. Universities tend to align with postmodern education since they are more likely to make room for changes in their activities, adjust to a dynamic environment, show flexibility, be competitive and prove sustainable as well.

One of the changes that should be introduced by universities on their quest for sustainability is the innovation which is a safe bet in terms of achieving the sustainability of academia. The innovative changes are much-needed in a society based on intelligence and competitiveness in the broader context of implementing the management of academic sustainability.

It is our opinion that *innovative changes are those changes involving the implementation of new methods, technologies, innovations in higher education to increase competitiveness and sustainability of universities by involving all members of the academia in the framework of an innovative culture. The innovative changes in universities* represent a must in the 21st century that is defined by intelligence, dynamism, technologies, and innovation, and reshapes the activities of the higher education institutions by compelling them to research, innovate, develop new platforms and thus increase their competitiveness. The need for implementing innovative changes in the education process has been prompted by the pandemic crisis, when universities had to swiftly identify viable solutions to overcome the challenges posed by the pandemic.

In the Republic of Moldova, over the past 12 years, universities have shown a decrease in their dynamics. More precisely, in 2011 there were 33 higher education institutions in the Republic of Moldova, while in 2022 their number fell significantly to 22 institutions. The state universities decreased from 19 units in 2010 to 16 in 2022, while the private ones dropped from 14 institutions in 2010 to 9 in 2022, or, in percentages, with 35%. The data specified in the table shows that dynamics of the students enrolled in the Moldavian institutions is also decreasing, following a negative trend for the period of 2011-2022, more precisely from 107,813 students registered in the academic year 2010-2011 dropping to a number of 89,529 students in 2014-2015, a decrease of 17%. In the academic year 2021-2022 the number of students dropped dramatically to 59,647 or registered a decrease of 34% compared to 2015 and of 45% by comparison to 2010-2011. This fact is explained by the low natality rate, youth immigration, and enrollment in education institutions abroad, and last but not least, youth immigration for family reunification.

Table 1. Dynamics of the higher education institutions in Moldova between 2010-2022

Indicators	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	21/22
total number of institutions	33	34	34	32	31	31	30	29	29	24	24
Number of state institutions	19	19	19	19	19	19	19	19	19	16	16
Number of non-state institutions	14	15	15	13	12	12	11	10	10	8	8
Total number of students	107813	103956	102458	97285	89529	81669	74726	65543	60608	59033	59647
Female students	61202	58576	57371	55067	51496	47217	42828	38054	35091	34443	35049
Male students	46611	45380	45087	42218	38033	34452	31898	27489	25517	24590	24598

Students in the state institutions	88791	84946	83008	78919	72474	66938	62108	55341	50620	50200	57228
Students in the private institutions	19022	19010	19450	18366	17055	14731	12618	10202	9988	8833	2419

Source: The National Office of Statistics, 2022

The analysis on the dynamics of the students enrolled in the state universities between 2011-2022, in the Republic of Moldova, shows a negative trend for the entire period under analysis. Accordingly, if 88,791 students were enrolled in the state universities in the academic year 2014-2015, their number dropped by 18,4%, more precisely to 72,474 students, and in the university year 2021-2022 the number of students registered was 57,228, a significant drop by 35% compared to the year of 2014-2015 and by 36% compared to the year of 2010-2011.

At the same time, the analysis of the students enrolled in the private higher education institutions, in the same country, also shows a negative trend: from 19,022 students in the academic year 2010-2011 dropping to 17,055 students in 2014-2015, while in the university year 2021-2022 only 2,419 students were enrolled in the same types of institutions, registering a dramatic drop by 86% less by comparison to the academic year 2014-2015, and by 87,3% compared to 2010-2011.

Table 2 shows the distribution of graduates according to the category of university (state or non-state universities). Between 2010 and 2021, the dynamics of the college graduates in the Republic of Moldova shows a negative trend, more specifically from 28,408 graduates in 2010 dropping to 24,274 graduates in 2015, and 14,084 graduates in 2021. These figures prove that the number of college graduates fell by approximately 40% in 2021 compared to 2015 and by 50% compared to 2010. Graduates from both state and non-state universities record the same negative trend. Accordingly, the state institution graduates showed a decrease tendency in the period between 2010 and 2020, their number dropping constantly from 22,370 in 2010, to 18,867 in 2015, and finally to the dramatic number of 12,108 graduates in 2020, a decrease by 36 compared to 2015 and by 46% in comparison to 2010.

Table 2. Distribution of college graduates according to the category of institution (state or non-state) between 2010 and 2021

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total	28408	27788	26730	24848	24274	23630	21886	19943	18142	16266	14650	14084
State	22370	22111	21548	20105	19649	18867	17632	16228	14945	13267	12108	11653
Non-state	6038	5677	5182	4743	4625	4763	4254	3715	3197	2999	2542	2431

Source: The National Office of Statistics, 2022

On the other hand, the same negative trend is observed in the case of the non-state institution graduates. More precisely, in 2010, there were 6,038 graduates, in 2015 their number fell to 4,763, and finally in 2021 their number reached 2,431 persons. Accordingly, in 2021, the number of graduates dropped by 47% compared to 2015 and by 58% compared to 2010.

Table 3 shows the dynamics of the total number of students and of those enrolled according to the financing form of the studies (state-funded / tuition-free or non-budgeted/ tuition).

Table 3. Dynamics of the total number of students according to the financing form of the studies between 2011 and 2022

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22
Total number of students	88791	84946	83008	78919	72474	66938	62108	55341	50620	47745	49549	50197
Budgeted	30907	29175	28340	28098	27470	26669	25872	23260	21883	20754	21735	21760
Non Budgeted	57884	55771	54668	50821	45004	40269	36236	32081	28737	26991	27814	28437
Total number of enrolled students	23128	23018	23086	22417	20501	20939	18990	16459	15858	16599	18143	17444
Budgeted	9527	9381	10241	10263	9807	9348	9029	7300	7595	7662	7728	7608
Non Budgeted	13601	13637	12845	12154	10694	11591	9961	9159	8263	8937	10415	9836

Source: The National Office of Statistics, 2022

Based on the data shown in table 3, we can see that during 2011-2021 the total number of students dropped from 88,791 persons as registered in 2011 to 72,474 in 2015, and finally to merely 49,549 students in 2021. In the same year of 2021 it was recorded a drop of the number of students by 32% compared to 2015 and by 45% compared to 2011. Therefore, in the past 2 years, due to the pandemic, the total number of students has slightly increased, from 47,745 students registered in the academic year 2019-2020 to 49,549 in the university year 2020-2021.

Pandemic has altered stereotypes, changed values, highlighted the need for adjustment of the higher education institutions in a new context. The implementation of the online education and learning turned into a lifesaver of the universities across the country. Although basically unprepared to assume the new challenges posed by online teaching, in terms of both technologies and methodologies, the academic community implemented the new methods of interactive teaching, by using platforms such as Google Meet, Teams, Cisco Webex, etc. At the same time, both students and teachers faced huge difficulties that required immediate, fast, and efficient actions to provide quality while running education activities. The results of a study carried out by the Moldovan Academy of Economic Studies in October 2021 shows that, in the case of 221 students specializing in Business and Administration, they are largely satisfied by online learning (42% respondents). At the same time, 81% stated that they easily adjusted to the new requirements enforced by the pandemic and to the new changes occurring in the higher education system (Solcan, 2021). On the other side, 26% of the students stated that their motivation, in the context of online learning, increased, while for 39% of them it did not change, and for 27% of them it decreased. The main challenges faced by students during online education were as follows: lack of communication with fellows/ teachers (53,4% respondents), a high volume of work

linked to individual activity (49,3% respondents), lack of concentration during online classes (44,3%) , etc.

Moreover, students also mentioned the presence of technical difficulties met during online classes, difficulties that impacted negatively on understanding the material. To mention a few of them, interruption in the process of material presentation (49,3%), sound problems (40,7%), slow internet speed (38,0%), etc. On the other hand, the respondents of the study also highlighted the main benefits brought by online education such as possibility to mix work and studies (80,5%), saving time and money for not going to university (76%), learning in a comfortable and familiar environment (59,7%), digitalization of the education process (59,3%), etc.

Conclusions and recommendations

To assess the situation of the development of higher education system in the past 12 years, it was necessary to research the dynamics of the higher education institutions in the country, in terms of property form and number of students. Thus, the analyses performed allow us to highlight that in the past 12 years there has been registered a negative dynamics of the number of higher education institutions, more precisely their number fell from 33 as registered in 2011 to 24 in 2022. This fact is not necessarily negative, it also has a positive aspect since it amplifies the need of universities to adjust their activities, policies, and strategies to reach sustainability.

In the same circumstances, it was analyzed the dynamics of students enrolled in the higher education institutions in the Republic of Moldova. Accordingly, during the period under analysis (2010-2022) it was registered a negative trend among students from such institutions. In this respect, the negative dynamics has a dramatic impact on the activities run in the higher education institutions, compelling them to reorganize the academic management in terms of energetic efficiency, waste collection, resource saving on one hand, and also implementation of necessary measures for reaching sustainability. To reach the objectives of postmodern education, universities need to take the following steps:

1. *Reassess their organizational culture* by focusing more on the innovative changes that impact the academia and require a swift adjustment of such institutions.
2. *Redefine their strategic objectives*, in terms of showing a greater attention to digitalization and development of innovative strategies, which can and will help universities overcome the many challenges they are currently facing. Developing e-learning, e-tutoring, distance learning tools and using platforms such as MOODLE are just a few of the factors contributing to paving the way for higher education institutions to reach the objectives of postmodern education.
3. *Develop innovative and competitive advantages*, a requirement for every university focused on identifying the innovative advantages that will eventually take them on the right path for reaching the objectives of postmodern education.
4. *Develop their own models for reaching sustainability*, that is another requirement for every university set on creating their own models of sustainability, by focusing on domains of teaching, research, cooperation, operating major changes in each of these domains. Reassessing education plans and introducing courses of/ about sustainability, boosting research on the sustainability issue, dedicating a section on the university website to the sustainability-related activities, are a few of the measure that could help university reach sustainability.

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