kriativ.tech

Edição Nº 8 – 31 de Julho de 2020
ISSN Print: 1646-9976 | ISSN Online: 2184-223X |
http://www.kriativ-tech.com
DOI: 10.31112/kriativ-tech-2020-06-34

Distance learning in the pursuit of public policies of economic interest and valorization of knowledge

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Abstract: *This article is based on research whose objective was to analyze the impact of technological development and distance learning in the pursuit of public policies of economic interest and valorization of knowledge in force in Portugal.*

The research showed that technological progress and development and distance learning had been the essential elements for the achievement of the objectives of public policies that have been defined in Portugal in the particular field of qualification of workers and the valorization of knowledge, modernization of companies and the economy.

Keywords: *Distance learning, public policies, appreciation of knowledge*

I. Introduction

The emergence of the Covid pandemic in Portugal and the risk of consequent territorial spread led to the imperative need for the confinement of the population to prevent the increase of contagion situations and the number of infected people in the context of protection and promotion of population's health.
This situation, apart from having a disastrous impact on economic activity and the life of companies and their workers and increasing conditions of need for social support, has prevented the continuation of studies in the usual way at all levels of education to the extent that the most widespread application model is based on face-to-face classes.
This circumstance, if on the one hand, led to the introduction of immediate measures aimed at the economy, the protection of citizens and education, has also made it possible to monetize the technological tools and means available to ensure distance learning, with the necessary adaptations, to guarantee the continuation of the different levels of education for all students.
Therefore, this article aims to analyze the impact of technological development and distance learning on the pursuit of public policies of economic interest and appreciation of knowledge in force in Portugal.
For the realization of this brief exercise, we rely on bibliographic and documentary reference research.

II. Distance learning

II.I General aspects

Distance learning is a modality of teaching and learning supported by technological means that frees teachers and students from the physical presence and in the same space. Also known as online education or distance education has been arousing opportunities for the advantages of technology.

In Portugal, distance learning dates from the beginning of the last century observed in specific initiatives. Still, it was with the most recent emergence and territorial dissemination of the Internet and the Web that the use of this modality was most notable and aroused the interest of society.

Changes in people's way of life, road disturbance in large urban centers, difficulties associated with reconciling professional activity with personal and family life, interiority, time savings, and associated costs, particularly with

housing mobility, especially for students farther away from education centers, as well as new forms of relationships between people and widespread access to technology, are factors that have contributed to the higher interest in distance learning. As Siemens points out, "technology has reorganized the way we live, how we communicate, and how we learn." [1]

For the operation of distance learning, it is sufficient for the student to have access to the Internet and a learning management system or a platform of its own so that the process takes place dynamically and efficiently way supported by interactivity, dynamism, and innovation. [2]

II.II Pedagogical processes and models

According to the Educational Modelling Language mentioned by Hummel and others there is a wide diversity of pedagogical processes and models that, regardless of their rules, relationships, interactions and activities that take place between the agents of the educational process according to Tattersall and Koper, and Dutra and others, mentioned by Filatro [3], are based on a set of supposed:

a) A person learns (inter)acting in/with the outside world (environment), performing activities and receiving feedback from this environment; b) The real world is composed of social and personal situations that provide the context for actions; c) An environment is a set of objects, living beings and, possibly, subenvironments in specific interrelationships; (d) part of the situations are communities of practice and, more specifically, learning communities; e) There are different types of learning, and the focus of a pedagogical metamodel is one that can be objectified by instructional measures; f) Learning can be considered a change in cognitive or metacognitive state. Changes in impulsion and affection can also be considered a result of learning; g) When a person has learned, they have made new interactions or performed better or faster interactions in similar situations; or delivered the same actions in different locations (transfer); h) A person may be encouraged to perform specific interactions (activities) if he is willing or invited to achieve it (impulse/ motivation); can complete it (cognitive factor); you feel like performing it (affection/emotional factor); is in the right situation to carry it out (situational factor); i) What has been defined for a person is also valid for a group of people or an organization. [3]

However, if we start from the premise that learning results fundamentally from the interaction between people supported in the development of activities and supported in contents and tools having in view a certain objective to reach, the pedagogical model to follow, independently of the perspective to adopt, must be based on the explanation of the following elements according to Filaludetro: [3]

Pedagogical Model	
Process elements	Explanation
Study unit	What will students study?
Objective	What are they going to study this for right now?
Activity	What will students (and teachers) do?
Who performs the activity	How will students work (individually or in groups)?
Duration	How long will it be dedicated to carrying out the activity?
Tools	What technologies will be needed to carry out the activity?
Content	What topics or topics will be addressed?
Student production	What will be the result (process or product) of the proposed activity?
Evaluation	What is the weight of this result in the overall assessment of learning? What kind of feedback will students give or receive regarding their learning process and or product?

Table 1 - Pedagogical Model – process elements
Prepared by the author based in Filatro, 2009

According to Siemens, "connectivism provides a perception of the learning skills and tasks needed for learners to flourish in the digital age." [1] Stephen Downes also recommends sharing online teaching/course materials as a critical element in accelerating course development and making education more cost-effective. [4]

II.III Pedagogical acts

The pedagogical acts correspond to the description of the teacher's functions, followed to

provide the student with the achievement of the defined learning skills. According to Teles, the pedagogical function should include in distance education: a) Feedback; (b) Guidelines; c) Information; d) Opinions/preferences/advice; (e) questions; f) Summary; and g) References from external sources. [5]

These online functions, being guiding in the teacher-student pedagogical relationship, are fundamental for clarifying what is expected of the student and his learning process, also serving the teacher as a guide of educational activities and for the effectiveness of the results.

II.IV Advantages of distance learning

In distance education, in line with what we have previously mentioned as reasons for their demand, some advantages are identified, namely:

- The flexibility of time, since it is possible to study at the time when the student feels more at ease;
- Better reconciliation of activities of daily living;
- Space flexibility, since the student can have access to online courses anywhere they have access to the Internet;
- Encouraging interaction with other students and distance learning tutors;
- More affordable prices (in online teaching courses) compared to traditional (face-to-face) courses, which generates savings for both the student and those who offer it;
- Dynamism; And

Interactivity. [2]

Online teaching, widely used in the most recent period of the COVID19 pandemic, has also contributed to a greater reflection on the teaching model in Portugal, leading some schools to change their traditional model, based on the presence of the student and teacher in the classroom, moving to a model of teaching courses in virtual classes and face-to-face classes, making times and spaces more flexible.

Despite the advantages enunciated, there is still a way to go from experiences and teachings; it is not enough to talk about change, as Moran says "It is difficult to maintain motivation in the face and much more in the virtual if we do not involve students in participatory, affective processes that inspire confidence." [6]

II.V The case of higher education in Portugal

The legal regime of distance higher education approved in 2019, [7] extended the ministry of this type of education to other higher education institutions, ending with the exclusivity of the Open University in this field and giving a clear impetus to increase the capacity of the training offer, considering distance learning,

predominantly taught teaching with physical separation between participants in the educational process, namely teachers and students, in which:

i) Interaction and participation are technologically mediated and supported by online academic and technological support teams;

ii) The curriculum design is oriented to allow unlimited access to the contents, processes, and contexts of teaching and learning without limits of time and place;

(iii) The pedagogical model is specially designed for teaching and learning in virtual environments.

It was thus defined the normative framework with rules for accreditation, organization and operation of the modality of distance education with the particularity of each cycle of studies obeying a pedagogical model, which constitutes the reference for distance educational action and a curricular design, which constitutes the modular conception of contents, methodologies and activities of teaching and learning.

III. Public policies (of economic interest and appreciation of knowledge)

Public policies reflect the state's action in defining initiatives aimed at society. For Dye, public policy is "(...) what the government chooses to do or not to do." [8] In this area, the work carried out by Meny et Thoenig presents to us the idea that public policy reflects the result of the activity of an authority committed to political power and with governmental legitimacy, constituting public policy as a program of legislative action in a sector of society or a given territorial area. [9]

It is in this context that we look at the analysis of new policies of economic interest and appreciation of knowledge in the context of public policies, so-called sectoral.

Thus, in the understanding that innovation plays a fundamental role in promoting the growth and competitiveness of the Portuguese economy, through the improvement of the country's scientific capacity and the strengthening of the capacity to exploit the economic potential that results from innovation and knowledge, the Portuguese State approved in 2018 the guidelines for a technological and business innovation strategy for Portugal for the period 2018 -2030. [10] In this direction, the National Digital Skills Initiative e.2030 was also approved, Portugal INCoDe.2030, [11] thus welcoming the recommendation of the Organisation for Economic Cooperation and Development (OECD) for Portugal to continue broadening and improving digital skills and to strengthen the capacity to exploit the social and economic potential of emerging digital markets.

The implementation of this initiative is presented in five essential axes: i) inclusion, through the generalization to all places and layers of the population of the acquisition of digital skills to obtain information, communication and interaction; (ii) education, through training of the younger layers and strengthening digital skills in all teaching and lifelong learning cycles; iii) qualification, promoting the professional practice of the working population, providing it with the knowledge necessary for integration into a labor market that increasingly depends on digital skills; iv) specialization, with a view to the qualification of employment and the creation of higher added value in the economy, reinforcing the offer of Professional Higher Technical Courses (TeSP) in this area, as well as graduated and postgraduate training of a professional nature; and v) research, ensuring the conditions for the production of new knowledge and active participation in international R&D networks and programs.

Among the targets set for the evolution of digital skills, under this initiative, we highlight here the desired predictability of achieving 2000 trainers in 2020 covered by continuing training actions, specific in ICT areas, including distance training.

Also in 2006 the creation of technological specialization courses [12] to meet the needs of the business fabric, at the level of intermediate staff, to respond to the challenges and opportunities of a labor market in permanent change and development, emerged to contribute to increasing the skills and qualifications of the Portuguese, dignifying teaching and enhancing the creation of new opportunities and the growth of people.

In 2007, the National Qualifications System (SNQ) was established as a strategic response to the low levels of qualification of the population, giving relevance to training and learning for personal development and the modernization of businesses and the economy. [13]

More recently, to revitalize adult education and training, as a central pillar of the qualifications system, the Quale Programme was created, which is an integrated training and qualification strategy, as a focus on training pathways leading to a useful qualification, as opposed to individual training, with poor added value from the point of view of skill and improvement of adult employability. [14] The targets of this program by 2020 are particularly for 50% of the working population to complete secondary education; achieving a 15% adult participation rate in lifelong learning activities, extended to 25% in 2025; and that 40% of higher education graduates, aged 30 - 34, are reached. [15]

In the same line of continuation, a qualification strategy was launched aimed at workers in public functions – the Qual AP Program, framed in the National Digital Skills Initiative and.2030 INCoDe2030 with the fundamental objective of providing public administration workers with qualifications and competencies that enhance the development of their professional careers, enabling their integration into qualification responses, in achieving the personal valorization of workers and the quality of services. [16]

Already in the most recent framework of the COVID19 pandemic, the Economic and Social Stabilisation Programme (EIP) has been approved, which, in the context of maintaining employment and the progressive recovery of economic activity, provides for the adequacy of the public policy response to the increase in unemployment, presenting, among other initiatives, the Digital Guarantee, i.e., aiming to ensure that by 2023 all the unemployed have a digital training offer, covering at least 40,000 new unemployed people, Youth + Digital, a training program for young graduates or 12th-year-olds, to acquire skills in digital areas such as e-commerce, programming bases, mobile applications, and Webdesign, and the Digital Pro Programme, to empower vocational training centers to develop distance learning. [17]

The PESS also elected professional requalification in higher education as an essential initiative in the field of job maintenance and progressive recovery, providing support for short initial training in polytechnic higher education, encouraging the insertion of adults active in higher education (over 23 years old), and postgraduate studies with employers, scientific institutions and innovation centers. [17]

Also in the context of public policies, we resume here the recent approval of the legal regime of higher education taught at a distance, to set out two primary purposes of education policy in this area, the promotion of high quality higher education in the Portuguese language worldwide and investment in the qualification of the Portuguese population, namely the skill of adults in the workplace and close collaboration with employers, being pointed out (distance learning) as a high-quality alternative to the face-to-face modality, in addition to the flexibility of time and place it provides, allowing a better reconciliation of the personal, family and professional life of the interested parties, also constituting an opportunity for the development of a new pedagogical and curricular approach. [7]

IV. Conclusion

According to the research and analysis developed, we have identified a growing concern of the State in the development of initiatives to promote employment, valuing and qualifying workers and strengthening the market, which guides the definition of public policy in the fields of work, training, and education, with particular emphasis on increasing the modernization of companies and the economy, technological innovation and digital skills.

There was also a greater openness of the State to the development of distance education and training, with particular evidence in the approval of the legal regime of higher distance education, given the resulting advantages – better management of time and space, better reconciliation of activities of daily living, promotion of the Portuguese language around the world and strengthening the qualification of the Portuguese.

It was also evident from the literature the accumulated knowledge of the characteristics and functionalities of the pedagogical models to support distance learning and the technological evolution of support in this domain.

Finally, we note that the increase and progress of digital technology. On the one hand, it is fundamental to the best outcome of distance learning, is also the mainstay for the pursuit and effectiveness of public policies that have been defined in the areas of the qualification of workers and the enhancement of knowledge, and for the modernization of businesses and the economy, in other words, technology and distance learning are, in fact, the essential means for achieving the public policy objectives that we have analyzed.

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