Digital education and social assessment. A research agenda

Educação digital a avaliação social. Uma agenda de pesquisa

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Resumo

O artigo tem como objetivo iniciar uma agenda de pesquisa e relatórios de avaliação sobre educação digital e suas políticas de planejamento publico. Pesquisas e evidências acadêmicas demonstraram que a discussão sobre esses assuntos está focada em métodos e plataformas, mas falta uma avaliação do impacto social dessas novas formas de aprendizado aceleradas pela propagação da pandemia de Covid-19. A emergência não poderia ser uma espécie de autorização ampla para continuar o modelo emergencial sem uma discussão que abranja impactos sociais e políticas futuras. Também na Europa, onde há um controle do impacto social, o problema da exclusão social devido a aceleração digital na educação é carente de relatórios com um foco social. A aceleração da educação digital deve ser criteriosamente avaliada com avaliação de impacto social e análise de risco das políticas vigentes com uma agenda de pesquisa.

Abstract

The paper aims to define a research agenda and assessment reports about digital education and its public policy planning. Academic research and shreds of evidence have demonstrated that a discussion about digital education is focused on methods and platforms but there is a lack of social impact assessment of these new forms of learning accelerated by the pandemic spread of Covid-19. The emergency could not be a sort of wide authorization to continue the emergency model without a discussion that encompasses social impacts and future policies. In Europe, where is control of social impact the problem of social exclusion due to education digital acceleration lacks focused reports. A digital education acceleration must be asses with social impact assessment and risk analysis of the actual policies with a research agenda.

1. Introduction

After Covid-19 spread, all educational systems in the world experimented an acceleration to virtual education. Some Nations were more prepared others less but all had to face not planned issues. The problems raised non only from the platforms (hardware and software) to provide basic virtual education but also from the curricula and the content of the courses, the evaluations, the readiness, and the skills of the teachers to provide lesson hours. Finally, also the students and their families felt issues to improve motivation and approaches to visual teaching.

In this context, many discussions about the methods, the information technology, and, of course, the innovation itself were raised. In contrast, the human side was surprisingly neglected. But the social impact evidence was a raise of social exclusion between the digital concentration of places and income and other situations. This digital transformation impacted mostly less favorite income students. Teaching with new technology is not in discussion, as well as innovation and digital education, but the discussion is about discrimination and exclusion and how digital education could be a way to differentiate and exclude people.

The democratization of information is running with the internet spread and its use but there are some things that allow this democratization: good internet connections, hardware and software of the last generation, and time/education to use it. If the digital education policy is supporting only one way (i.e., the propriety or possession of digital devices) and is not supporting the social side of the innovation a gap will be the result.

In this paper, we discuss the reverse of digitization, or the exclusion that occurred when new technologies were so easily adopted whiteout assess social impacts. The goal is to clarify why and when digitalization could be bad and to ask for more attention in education policies and use of report assessment like social impact assessment

A research agenda is the result of an open discussion in society to decide the strategy of digital education, the use of innovation in education, and the results expected. With this paper, we aim to contribute and provoke a discussion on it.

2. Methodology

The paper adopts the hypothesis that education and learning based on actual digitalization policies could exclude more than include students and concentrate benefits on high-income citizens not low income increasing the education gap between rich and poor.

To demonstrate the hypothesis, we use it in the first phase of bibliographic methodological research using secondary data reports. In the second phase, we discuss what is a social impact assessment. Finally, we show the elements not included in the social impact assessment that put at risk all benefits of digitalization and the democratization of information and learning with digital education

3. Discussion and Results

To start the discussion, we can say that new forms of digitalization are supported today, and it is evidence for all us, by the acceleration of mobile technology that allows us to be connected to the internet everywhere. Internet applications then allow us to perform operations, i.e., bank operations, without the clerk. Telephone and communications also are included in mobile devices like telephnes, smartphones, and tablets.

Education in other sectors is also affected by this digitalization and mobile technologies rising. Although innovation was started at the end of the last century. along

with the Covid-19 emergency, all institutions in the world experimented massively with line or distance education like never before (AVENI, 2021)

As in the other sectors, the social impacts of new technology and digitalization were huge and contributed to increasing the social gap between generations and communities. The income spent to buy new devices is also a problem for families with high and low incomes. But it will impact the practice of using them too. Last but not least the location in which the family is leaving is a differentiation or exclusion.

The generation gap is a cultural one, when people with less familiarity with new technologies, like seniors, cannot use new technologies and instruments, and have no money to spend to buy new devices. The community gap depends on the installations of repeaters, digital fibres, and internet networks in all locations and municipalities, been favorite big cities and research centres against low-density and rural communities, but also slums and low-income residences in the cities.

In sum who live in suburbs and outside the cities and with low income are the most affected (and more the senior citizens) which is exactly the opposite of the initial goal of the digital network like the internet. The Internet was created exactly to distribute knowledge and not to concentrate it and control information. However, these are the actual use perception of common people.

Seeking network, income, and location differences that are social characteristics, we need to clarify the definition of virtual or digital education and the connection between digital education and its social impact. Today teaching exceeds presence and personal contact. In fact, the difference between online learning and distance learning is location and location is a social variable although neglected in most social reports unless in new geography reports that include social variables.

Online learning (sometimes called eLearning) is used as a blended learning technique along with other teaching strategies. Online learning is a supplemental way of mixing things up in your classroom to provide learning opportunities for your students. Students have an instructor while working through their digital lessons and assessments.

When using distance learning the instructor uses digital forms of communication such as messaging apps, video calls, discussion boards, and you're learning management system (LMS). It is a method for delivering instruction, not a variation in teaching. Students work online at home while the teacher assigns work and checks in digitally. So that the interaction between you and your students differs as well by the differences in location.

Due to the threat of COVID-19 while keeping faculty, staff, and students safe from a public health emergency many institutions have opted to cancel all face-to-face classes, and move their courses online. But moving instruction online enables the flexibility of teaching and learning anywhere, anytime, was rude and at a speed unprecedented experimented.

Support personnel and teaching teams typically supported small teaching online and weren't able to support all faculty online teaching in the short time needed because of the speed of the spread.

Moreover, institutions made different decisions and investments, resulting in widely varying solutions and results from one institution to another. Online learning resulted in lower quality than face-to-face learning, not because of the method itself but because of all the difficulties of support, preparation of class, and last but not least the teacher preparation.

The highly variable design solutions resulted and that have been developed and implemented emerged: distributed learning, blended learning, emergency remote

teaching, mobile learning, and others. These were slightly different from the two main methods explained above, i.e., Online and distance learning.

Distributed learning is a multi-media method that includes a mix of Web-based instruction, streaming video conferencing (webinar), face-to-face classroom time, distance learning through television or video, or other combinations of electronic and traditional education

Blended learning effectively replaces some of the face-to-face contact time rather than supplementing it. It is a mix of technology-mediated and web-enhanced instruction, and combines online educational materials and opportunities for interaction online with the physical presence of both teacher and student, with some elements of student control over time, place, path, or pace.

The Covid-19 "emergency remote teaching" has emerged as a common alternative too, in which the presence lesson was substituted by a video lesson. Today was also substituted by adding homework, to sum up, the effective number of hours due to developing the contents. This form of teaching, when adopted without strict control of the homework done, resulted in reduced learning hours and weak preparation at the end of the learning cycle.

Bibliographic methodological research

According to the TU.S. Department of Education, Office of Educational Technology, Understanding the Implications of Online Learning for Educational Productivity, (2012) the use of technology as productivity twas suggested when technology is coupled with organizational changes (ATHEY AND STERN 2002; ATKINSON AND MCKAY 2007; BRYNJOLFSSON AND HITT 2000, MCKINSEY GLOBAL INSTITUTE 2000, 2002). Always according to this report, some studies have shown that universities that use online learning had significant savings (BUZHARDT AND SEMB 2005; COHEN AND NACHMIAS 200); GORDON, HE, AND ABDOUS 2009; LOVETT, MEYER, AND THILLE 2008).

Thus, transforming American Education Learning Powered by Technology is the goal in the U.S. for all levels of the educational system to redesign processes and structures to leverage the power of technology. This stress to improve learning outcomes while making more efficient use of time, money, and staff that fit into a firm process is the goal declared. To do this it is needed to design and build key constructs and measures that will support increasingly real-time, integrated learning analytics for students, teachers, and administrators develop the technical and human infrastructure needed to plan and implement productivity analyses and use their results appropriately.

Moreover, the U.S. research made suggestions because of the complexity of implementations and the relative novelty of online learning with children. It was suggested to research to identify the conditions and practices of which combinations of technological affordances, subject domains, roles of adults, and instructional and assessment approaches work best for particular types of students. and with special needs deserve special attention.

The report also suggests to understand what need between Internet access, technical aptitude, independent learning skills, or adult supervision is provided and are necessary to engage fully in learning online. The question remains of which implementation characteristics are associated with success for at-risk students and students with disabilities. Another question is the degree to which access to technology and learning content presents barriers for student participation and success in online learning programs. More research must be developed because the available research does not speak to guidelines for practitioners regarding how and under what circumstances

teachers, mentors or facilitators can best be deployed through online interactions rather than face-to-face.

Other problems are the appropriate teacher credentials and teacher-student ratios, appropriate roles for teachers given particular students and content, types of services instructors and moderators provide online, the cost-effectiveness of materials developed to support student learning without adult support relative to other models, barriers slow the adoption of innovation in schools and districts., incentives can be provided to encourage innovation.

But the focus of the reports was always to show an increase of people that completed the educational cycle. Following (IRWIN et al., 2022) a new report in 2022, Between 2010 and 2021, rates of educational attainment have increased at all levels in the United States. Educational attainment rates among 25- to 29-year-olds increased at each attainment level. The percentage who had completed at least high school 64 increased from 89 to 94 percent, the percentage with an associate's or higher degree increased from 41 to 49 percent, the percentage with a bachelor's or higher degree increased from 32 to 39 percent, and the percentage with a master's or higher degree increased from 7 to 9 percent as shown in figure 22 pg.30 of this report.

Also, the percentages who had completed at least high school increased for those who were Asian (from 94 to 98 percent), White (from 95 to 96 percent), Black (from 90 to 94 percent), and Hispanic (from 69 to 88 percent). In March 2021 into the coronavirus pandemic, the employment rate of 25- to 34-year-olds was higher for those with higher levels of educational attainment. That was not a surprise because only demonstrates that the income bracket of the top productivity level is reached at the top productivity age with the top educational level (IRWIN et al., 2021).

European Commission (2022) Published Teaching and learning in schools in Europe during the COVID-19 pandemic and reports that this exacerbated existing educational inequalities (EUROPEAN COMMISSION,2022A, 2022B, EURYDICE 2019). Here were discuss that according to Cachia et al., (2021) students with low educational attainment, those from disadvantaged backgrounds, those who did not have access to digital learning resources, and those with learning difficulties or lacking the resilience to learn on their own, faced substantial more obstacles in the context of distance learning.

Following the report conclusions, the CVID-19 responses all over Europe revealed large differences in the levels of digitalization between countries as well as the digital capacities of schools, teachers, and learners. Figures from the report that students were enrolled in schools where at least five students had to share one computer. and 3.8% of students had no access to computers at school whatsoever.

Thus, an online learning management system was used in approximately half of the schools before the pandemic it seems real that the change was not quick and with no human impact costs because most cases only guidelines for schools and teachers concerning distance teaching and learning were drafted and published on the websites of ministries of education or on dedicated information portals, we don't have figures of the increase on educations expenses all over Europe between 2020 and 2022. The emergency was faced with additional opportunities for students to catch up with the formal learning time, provided for the recruitment of support staff, and changes in teaching content and student assessment.

Social impact assessment

Social impact assessment (SIA) is a methodology that derives from the environmental impact assessment (EIA) model, which first emerged in the 1970s in the U.S. In the United States, applied to planned interventions. which main goal is to be able to assess social outcomes and long-term effects (INTERORGANIZATIONAL COMMITTEE 2012, ZANZIBAR ENVIRONMENTAL CONSULTANCY.2012, VANCLAY 2003).

The European Union has a number of reports in the fields of social inclusion and social protection, to combat poverty and social exclusion, social protection systems social inclusion of children, disabilities, and homeless people. The assessment is based on the European Pillar of Social Rights sets out 20 key principles and rights essential. The principles from 11 to 20 cover for principles most relevant to social protection and inclusion and it is called the third chapter.

The European Social Action Plan for 2030 put forward the following targets: employment, adult education, and poverty and between them the proposal for a Council Recommendation on minimum income, a European Platform on Combating Homelessness, an EU report on access to essential services, an initiative on long-term care, a High-Level Expert Group to study the future of the welfare state, guidance on the use of ex-ante distributional impact assessment.

The Social Protection Committee using the Open Method of Coordination in Europe is the voluntary process for political cooperation and evaluation of social impact assessments in SIA's identify and mitigate, identify the stakeholders, the type of communities who will be impacted in a positive or negative manner. Explain methods that will be used in your SIA, identify possible direct social impacts as well as the time frame of these impacts, and lastly provide government legislation and policies related to the SIA. There are steps that one takes to do an effective social impact assessment, as advised The Guidelines and Principles for Social Impact Assessment recommended these steps:

Describe what your public plan is and formulate a public plan or policy that involves
all potential parties.
Describe the social environment or area specific to your public plan or policy and its
conditions.
Recognize he potential social impacts will be communicated to those who are affected.
Identify the potential social impacts. Identify future impacts and growing social
impacts.
Establish the consequences of social impacts.
Plan an alternative public plan or policy and its outcomes.
Formulate a mitigating plan.
Formulate a program that monitors every aspect of the plan.
Social impact assessment and risks of digitalization.

Although online education articles on social impact are exceeding several thousand in 2022, Governmental reports that relay on these matters is not available. Thus, as a result of the bibliographic research, we didn't find a social impact assessment of digitalization or educational programs from 2020 on, from the Govern point of view. That is not surprising due to the pandemic's spread. The interventions and investments were

developed under emergency and the technical bureaucracy takes time to develop a policy and its reports.

But two years after the pandemic spread some assessment must be planned and an evaluation of the actions proposed must be at least started. A risk assessment of the health impact and psychological impacts to students of a changing educational method and the return to "normality" is mandatory.

In that sense, our claim and hypothesis were not proved. We have no figures or studies that assess impacts as the ones that were described in the introduction. However, the field observation has a common-sense evaluation that:

- many students suffer from psychological issues today more than yesterday and this is not only because of the pandemic spread
- many seniors are not able to use apps or new online digitalization features of Public Administration
- the offer of digital services increases but using new platforms only with last-generation devices and systems that make the old hardware and software inoperable in a short time

Only these three assumptions are enough to raise the doubt that there is a risk of a slight and constant exclusion of groups of citizens, old and young people, and a reduced capacity to follow innovations and pieces of information from the educational system. So even with no figure evidence, it is at least ethical to discuss the matter and to have research agenda before continue developing digital education so fast.

The suspicion is that the business of some corporations that sell hardware, software, social network, and marketing consultancy is worth more than society and their lobbies are able to deviate from social policies bargaining social welfare with low-cost devices. This is something we just have seen when Europeans came to America to sell glasses and knives to natives in exchange for land and food.

As a result of the bibliographic research above we confirm our hypothesis about the actual speech focus on online education development that it is more on productivity and methods to combine technology and people to have a good outcome with these new investments in online education in spite to understand the causes of the exclusion and social impacts.

As social impact assessment wasn't claimed to be developed in the main reports visited here in this paper, we conclude that the separation between Educational Reports, Emergence Educational Reports, and Social Impact must be outdated. The real problem is to dig into the causes of a social gap in educational systems, internal and all over the world, and answer how to improve a full and comprehensive education of good quality to fill the gap. A good education is not only a human right but also a human capital to increase and preserve.

4. Concluding remarks

In the paper, we discuss the gap in digital education. This is to benefit all students and the system, especially in case of emergency. The paper explains the issues and risks of having more digitalization and improving information technology systems and their impacts on society.

We don't discuss the problem of investment plans and resources as a cost-benefit analysis. We suggest, using a simple social impact assessment report, summarising the issues and the risk of raising the difference and the gap between rich and poor students.

If the digitalization of education will increase next it must be re-formulated and take care of social impacts because not only the new education paradigm and the new educational system could cause problems. Also, the learning paradigm could be affected.

We will have to discuss these new forms of digital education considering a new form of education inputs and the learning goals. We need to base the discussion not only on advanced learning like the active teaching or flipped classroom method as today in Brazil. These methods are only part of the problem. The online platform and digital education imply a revolution of all learning systems curriculas on these impacts are not very well studied and evaluated.

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