Pandemic and Disruption: Opportunities for Learning and Social Transformation

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Abstract

The societal disruption caused by the presence of the COVID-19 brought an unprecedented crisis in current generations, "a downward spiral in the world economy" and "a huge impact on higher education system" [1]. Like all crises, it has the other side of the coin, where opportunities emerged. Within the teaching environments, the pandemic generated uncertainties and anguish, but also the space for reinvention, at the individual and collective levels, involving teachers and apprentices. The imperious need to continue teaching led to innovation of technological and pedagogical learning activities, beginning with educators, but quickly spreading into the entire school community (e.g., students and families). The school entered each house, overcoming physical presence, contact, sharing of a diversity of elements, making difficult to transmit more than just knowledge, feelings (touching), emotions, and senses (smelling) - life in all colors.

This paper presents and reflects views and perceptions of Higher Education students in Portugal. An anonymous, online questionnaire was performed and applied to 53 students from different scientific areas, with the aim of collecting insights, emotions, and feelings about emergency remote education in times of pandemic.

Results reveal that students value distance learning arguing that: saving time in transportation, reducing costs, conciliating work, family, study and feeling comfort being at home. However, most of respondents reveal that they did not like the absence of human contact, expressing anxiety, anguish, paranoia, stress, suffocation, loneliness, sadness, tiredness, overwork, and isolation. Additionally, students state difficulties in understanding the matter taught, feeling tired facing the computer and having technological problems with the internet. Most students value online classes using interactive methods, with collaborative work being the most valued component. Finally, respondents offer some suggestions to decision makers in order to reflect on aspects to improve remote emergency, into opportunities to change the status quo of higher education.

Keywords: *Collaborative learning; active learning; pandemic; emotions/feelings; higher education*

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1. Introduction

The world crisis caused by COVID-19 significantly disrupted the learning system. From one day to the following, face to face classes changed to "emergency eLearning" [1] a new form of teaching and learning. Entire families were sharing the same space for living, working and being at school. Home was also disrupted: schools entered the house changing abruptly families' habits and routines.

Teachers had to brusquely (self) train and prepare, responding to the new challenge that invaded the world. There was an urgent need to learn about digital technologies, the basis of virtual education; the crisis required teachers to acquire new skills and prepare materials suited to virtual learning environments [2]. There was a rush of delivering training to teachers and preparation of a new school year, drastically different from what was planned.

Along the "devastating impact of human life and shattered economies around the world" [1] universities were closed, with "government instructions to follow social distancing (…) or physical distancing" [1] causing a huge impact in higher education. For both teachers and learners, classes lost face to face contact as well as part of the senses: smell, touch, eye to eye, even eyesight was reduced to voice transmission, and whatever could be reproduced in the computer or phone visualization.

Alongside the global crisis, and as history have shown, “disasters can facilitate societal change” [3] and create opportunities to innovation [4]. Positive aspects arose especially by reimagining education, with improvement of several aspects: social connections and belonging, empathy and solidarity, opportunity for learning, adaptation to new teaching systems, [3] and as a result, reducing the possibility of infection by COVID-19. Additionally, it is “vital that teachers become active agents for change, not just in implementing technological and social innovations, but in designing them too. That means that education systems need to become better” [2]. As stated by Dias de Figueiredo [5] imagining scenarios for a new world, it is essential that education may evolve “from explanation to autonomy, from teaching to learning, from individual to social, from content to contexts (…) through a presence with distance” without the need for simultaneity, with the necessary time spent for human cognition, evolving towards collaboration, peer evaluation and co-learning, with greater flexibility of times and spaces. With this new view of the teaching-learning process, there is a need to invest time to emphasize emotional aspects.

Nevertheless, Roca et al. [6] have shown that although the students expressed negative emotions due to the highly complex context and lack of professional experience, they evaluated their experience positively in terms of learning and usefulness, employing adaptive coping strategies to deal with the pandemic. At the same time, the digital transition can be seen as favouring active learning methodologies that are, as in the case of other levels of education, increasingly used in higher education.

2. Methods

This paper presents the results obtained through an anonymous questionnaire with the aim to collect perceptions and feelings about emergency remote education in times of pandemic.

For this, an intentional non probabilistic sample [7] of a total of 53 students on higher education courses, 34% male; 66% female, ages from 17 to 40 years old, from different backgrounds (e.g., environment, engineering, social sciences, sports, health) and levels (69.8% on graduation, 20.8% on master and 9.4% on post-secondary course), answered the questionnaire.

It is justified the use of an intentional non-probabilistic in convenience sampling (applying the questionnaire to subjects to whom immediate and direct access was available), since it was intended to collect a diversity of profiles to understand different perspectives among students. Criterion was not intended to develop a quantitative study but a semi-qualitative with the focus in the impact on higher education students as a result of the pandemic situation. This method was selected since it was impossible to draw random probability sampling due to time restrictions. The questionnaire has open-ended questions (which allow respondents to express themselves freely, indicating his information and knowledge) and closed questions (allowing respondents to answer the same question) so that the answers can be comparable with each other [8].

3. Opportunities for learning and social transformation

3.1 Emotions/feelings

Regarding strong positive feelings during lockdown and on-line classes, respondents mainly highlighted (Fig.1): comfort; time management; learning; safety; and freedom. In opposite the principal strong negative feelings are anxiety, lack of human contact, demotivation, frustration, homework overload and depression (Fig.2).

Fig.1 Positive feelings word cloud (n= 53)

Fig.2 Negative feelings word cloud (n=53)

3.2 Methods applied in the online classroom

Concerning learning and methods applied in online classroom, interactive methods (52.8%) were clearly the most liked; however, it was also mentioned (1.9%) a dislike for any of the methods used (Fig.3). Only 13.2% respondents commented they liked most the expository method, highlighting the advantage of being able to learn wherever is more convenient, if recording of the session is made available (11.3%). From the 17 students (32.1%) who found an advantage of using both methods (expositive; interactive), they justified: less monotonous classes (15.1%); benefit for learning (7.6%); and evaluation (1.9%). However, one student (1.9%) also mentioned not being able to learn in online classes.

Fig. 4 depicts the different interactive methods, being collaborative work (27%) the preferred.

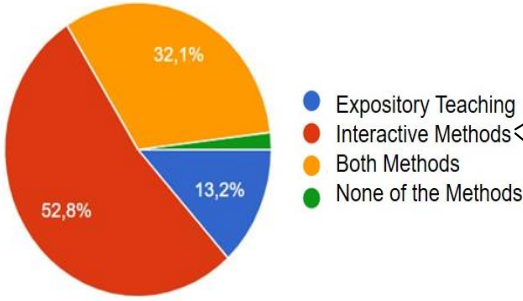

Fig.3 Preferred methods in online classroom (n= 53)

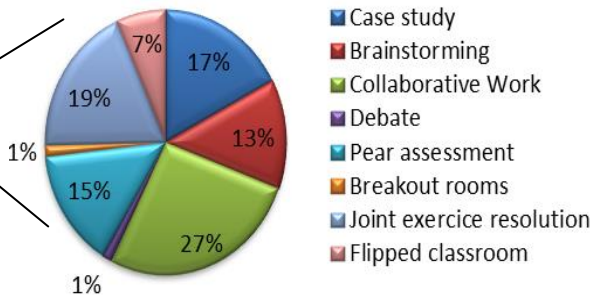

Fig.4 Preferred interactive methods (n=28)

Concerning their preferences about distance learning, students could choose more than one option, highlighting: saving time in transport (60.4%), reducing costs (54.7%) and still being at home (45.3%) and in pajamas (30.2%). Other aspects mentioned were better time management (3.8%) and spending more time with family and/or pets (3.8%).

Regarding the aspects students disliked, they report primarily (84.9%) the absence of human contact, particularly being with colleagues, and then (67.9%) the greatest difficulty in understanding the content, the long time in front of the computer and having problems with the internet. Other negative aspects mentioned were being sleepy (34.0%), not seeing the teacher (26.4%), returning to the parents' home (3.8%) and still being seated for a long time (1.9%) or the difficulty felt in understanding some disciplines while being online.

3.3 Guidelines for higher education

Students were also asked about offering suggestions for higher education decision-makers; ideas that emerged can be tidy in five categories: education and classroom strategies; students and teacher concerns; methods; technology; and health (Fig.5).

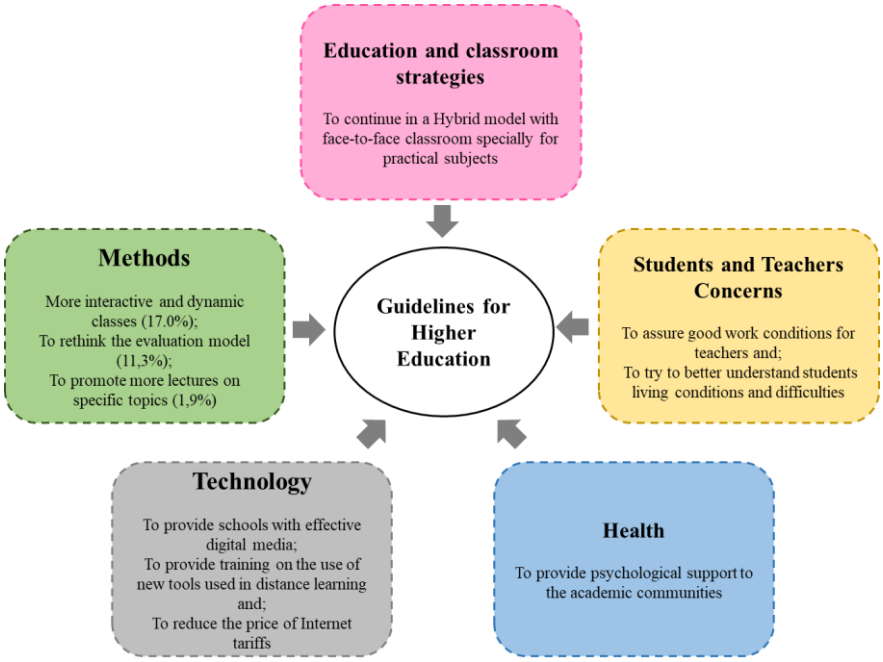

Fig.5 Suggestions from students to higher education decision makers

Students views on education and classroom strategies varies, from recognition of the online advantage for theoretical classes (13.2%), to valueing face-to-face teaching (9.4%), suggesting these last ones for courses without laboratory classes, since the “covid generation” is less qualified for the professional life when compared to pré-pandemic colleagues that had face-to-face classes. Students also suggest good work conditions for teachers (e.g., efficient internet; training for collaborative/dynamic classes; and updated content lessons). Ensuring that every student had a computer was one of the main aspects pointed out, through the allocation of state budget to deliver tablets insted of paper books. These are cheaper and easier to transport, have less weight and forest is preserved. In general, students expressed a desire for getting a better understanding of their living conditions difficulties, illustrated by one of the interviwees quotes: “it seems that students are punished for something that it is beyond their control”. On methodological aspects, they suggest more interactive and dynamic classes (17.0%), rethinking the evaluation model (11.3%), or even promoting more lectures on specific topics (1.9%).Considering technology, suggestions included: provide schools with effective digital media that enable more inter-activity in and during classes; assure training on the use of new tools for distance learning; and reducde the price of internet. Students also suggested psychological support to trainees and trainers, besides effective epidemic controls, through testing and vaccination.

4. Final remarks

No doubt that this pandemic disruption, affected the overall life context. With this, new technology came to stay and brought with it a panoply of advantages, while intensifying its use in education. However, as anything else in life, it must be “handle with care”, making the most of its advantages and overcoming its limitations.

Without the forcing into technology, even to the ones that will never enter this race, imposed from one day to the other, and the massive adoption by teachers that grew fast in technological competences, this technologic turn would have developed more gradually, allowing for successive adjustments. That did not happen. Therefore, it is of the utmost importance to urgently identify and overcome difficulties felt by the scholar community to make the most of the technology, but prevent and overcome the negative impacts that may result from that. This is crucial to consolidate this jump. This situation motivates the authors of this study willing to bring upfront the different difficulties identified by students as a way of learning further about the real emotions/feelings and to provide better educational environments that could dealt with these news contexts turning them in better learning environments.

It is clear from this work that, though the return to the home environment was often considered a plus, there is an overall feeling of social gap resulting from lack of face-to-face interaction with pairs, even

for better understanding of the subjects taught. This makes us be aware that more hybrid learning environments marrying online and face-to-face models may be one of the answers. Curiously, it is interesting that a new generation, already technological prone, identify as a main cause of negative feelings/emotions, the imposed social gap, resulting from absence of human contact.
Further research is advisable and of the utmost importance to assess the right proportion of each, teaching online and/or face-to-face.

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