

Essay on visibilities and blindness in the formative world of dentistry: part 2 - internships and online (remote) education

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ABSTRACT

The essay, part 2, emphasizes the expanded use of informational technologies for virtual (remote) teaching and the possibilities for innovations in pedagogical, technical, and political practices with special emphasis on the praxis of curricular internships in dentistry. The focus here is on how the pandemic scenario produced regulations by corporate bodies and in institutional spheres, for digital management of professional and educational practices and their consequences in terms of internships in the Unified Health System. It concludes with a critique of the ambivalent relations between the human and the technological, in particular the concept of presence in the pandemic context, but also inquiring about future post-pandemic horizons in the educational universe.

Descriptors: Education, Dental. Pandemics. Education, Distance. Coronavirus Infections. Syllabus.

1 INTRODUCTION

The austerity policies and extreme commodification and privatization of higher education¹, which already were in expansion, advance even more by means of digital transformation policies and programs with which we live, stimulated by the closing of schools due to the need of controlling the pandemic².

The demand for the interruption of classes

caused by the pandemic opened space for the search for technological solutions to allow the teaching-learning continuity. At the same time, this finding allows us to experience an educational technological accelerationism^{3,4}, resulting in great challenges.

Under the excuse of the institutional responsibility for continuity of classes (emergency remote education), it also emerges

profitable plans – and, in some cases, profit-focused plans only – in private education organizations. They attract investments with the seal of financialization, thanks to the promises of educational transformation with the intensive use of new technologies and contingent replacement of human labor for some functions and tasks.

The use of informational technologies may not be something negative, as the technologies can bring significant conveniences for the universities in terms of quality and differentiation. However, they are captured by influences from the private sector that impose their commodification values and goals on higher education. In several educational institutions, it is evident the productive rearrangement, under an also neoliberal political-ideological – not only technological – project bonding the transformation platform of higher education educational infrastructures and digitization^{1,5}.

The pandemic is a social, scientific, and technological challenge of such magnitude that the support to the education and health systems, amongst others, becomes even more basic. Such systemic support has happened in an unequal way, reaching in an unfair manner distinct groups that suffer the effects of the pandemic according to their place in the society due to economic or political power, access to and capacity of fulfilment of sanitary recommendations, health conditions and labor opportunity, amongst others⁶.

Never ever have a responsible science and a socially oriented technology been so necessary, not only for our immunization and adoption of non-pharmacological measures, but also for searching solutions that include the conjuncture of educational crisis and scientific denial⁷ – affecting the internships also, given the social contact and with the labor world made possible by them. With such problematization, it emerges the question of how to equate the issue of the

internships, developed as teaching-learning and care in act, if they migrate to the hybrid, partially digital format?

Although it is accepted that the technological tools and virtual environments have a great educational applicability as educational resources, in contexts of physical distance – therefore, applicable also in dentistry in its several teaching-learning activities –, these solutions have one major limitation related with the accessibility of many of those involved⁸.

The significance of science, technology, and reliable scientific information, both for the academic community and the population in general, as well as for the people served in the internships, becomes preponderant and involves the issue of interconnectedness in present times. Following the inquiries that are imposed, the question is: What type of information are we producing and conveying? What type of dental education or what type of internships would be possible in the Brazilian Unified Health System (SUS) in the pandemic circumstance? What is expected for the post-pandemic?

2 THE COMPLEXITY OF THE NEW CHALLENGES

Regarding dental education in its whole and the impact of the pandemic, including in the resolution of the internships, the questions still seem to be approached in an incipient way. Following the initial news concerning the pandemic emergency that outbreaked in Wuhan (China), the concerns are turned predominantly toward the production of guides and innovation of biosafety guidelines or methodologies making use of innovative informational technologies in education⁹⁻¹¹.

Beyond the interruption of the regular curricular activities, and the generic recommendations on the resumption of hybrid education – partially on-site, partially remote,

with rotation of groups and reduction of human circulation in the teaching-learning environments, everything still is quite vague in many institutions. Even the physical spaces still are not quite reconfigured, due to the time of construction and the financial resources available for investment. It is a time interpreted as of threats and negative effects for the dental education, severely affecting the students^{12,13}. A study published amidst the pandemic describes the initiatives and concerns of over two hundred professors from the whole world regarding the possible answers to be found for the provision of clinical courses, virtual curricula, or simulation laboratories in remote learning mode¹⁴. The innovation demanded for the renovation of the dental education model, in view of the Covid-19 pandemic, is centered on virtual technologies applied to future dental education¹⁰.

The issue of distance education/labor, or its virtual correlates during the pandemic, expands the concerns of the Federal Dental Board [Conselho Federal de Odontologia – CFO] when regulating a range of other current topics that involve the dental subsystem in Brazil (for example, the possible use of digitized images in social networks). Also, before the pandemic, the agency had already issued a specific resolution forbidding the application and registration of students who had graduated in courses fully provided by distance education, known as EAD [distance education]¹⁵. The imbroglio expands when a new resolution is issued¹⁶, considering the principle of legitimacy and prohibition for appointments by correspondence, radio, tv or similar means [*sic*], calling the attention of those concerned, as this is based on quite an old, pre-internet legislation (article 7 of Law N. 5081/66), when tele-dentistry, tele-appointment, tele-advice, and tele-education, among other available now, had not been even conceived.

During the pandemic, the corporative

agencies published in the accountable institutional scopes an extensive set of norms trying to guide the duties of health providers, especially in the field of surveillance and biosafety. With similar intensity, concerning teaching, the Ministry of Education produced regulations in face of the requirements for distance education. The education institutions became accountable for managing the processes in their technical, pedagogical, and political scopes and contexts. The proposals of internships and practices in a non-on-site way were established as likely to be organized by the education institutions, however respecting the organization recommended by the National Curricular Guidelines (*Diretrizes Curriculares Nacionais – DCN*) established in the different courses¹⁷:

“§ 3º Regarding the professional practices of internships or those requiring specialized laboratories, the replacement addressed in this caput must obey to the National Curricular Guidelines approved by the National Council of Education”.

The Brazilian Dental Education Association (Abeno) took a position, interpreting that, according to the DCN, the dental education must be restricted to the accomplishment of practical activities and on-site internships by digital means¹⁸. Later, by means of a specific law and in face of the extension of the public calamity state by the Covid-19 pandemic, it legislated on the reduction of the number of school days. This made it possible for the health field courses to bring forward their conclusion with 75% of the workload of the mandatory curricular internships¹⁹.

In its rhythm, the pandemic imposes open-and-close movements, not only in the Covid-19 surveillance and control system, but also in the legal requirements and establishments, setting

the intermittent shutdown of on-site teaching activities in the universities. Yet, a strategy is promulgated calling the health students to act in the front line of the pandemic, through mandatory curricular internships in primary care services, intermediate care services, hospital networks and in the very communities enclosed by the public service networks – the Brazil counts on me, a strategical action of the Ministry of Health²⁰. Also, some state health departments called oral health teams to the front line of immunization itself, with the participation of health students, especially medicine, in some localities.

Thus, it seems contradictory to understand why dental students, future health professionals, cannot be exposed to practical activities allowed to health providers, provided they fulfill a rigorous biosafety protocol. Therefore, we should ask how the governance and management systems of education and health integrated networks have acted for the functioning of internships in SUS during the pandemic²¹.

The recommendation from the National Health Council (*Conselho Nacional de Saúde – CNS*) is highlighted. Following several considerations, it addresses the Ministry of Education requesting technical opinions from the CNS itself and the mentioned Ministry²². In these technical opinions it is considered the norms issued on internships and insertion of students and professors in the health services. For instance, the substitution of on-site classes by digital ones while the pandemic situation lasts, with the prerogatives of provision of courses, in an exceptional character, using information and communication technologies (ICT), but vetoing the substitution of professional practices in internships and laboratory by the remote way. This collided with other guidance by the Ministry of Education, which emphasizes the development of professional practices by means

of internships, claiming that they are permeated by simulated and actual activities by means of ICT, and that this context already is a reality. However, the CNS reiterates that the use of virtual technologies must be incorporated as a pedagogical device to assist in the education process, not to replace the on-site teaching, but rather to strengthen and qualify it, both in unusual situations like the COVID-19 pandemic, and to consolidate its use in the future in a coherent way with quality training.

The senses and emergencies of the thinking on the learning decurrent of internships in SUS are others. There are pungent lessons being learned in times of much pain and rupture of social bonds. For example, the importance of the confrontation with the existential truth, the consideration of the vulnerability of the human condition, the importance of solidarity with the other²³. The association of technology with education needs to be seen with care, sensitivity, ethical grounds, and epistemological surveillance (of the scientific foundations), because while it provides training in digital means, it can also reduce the role of interpersonal relations in the teaching-learning process – this is when the pedagogical mediation with the use of the word is intermediated by screens^{24,25}.

3 ARE THERE ALTERNATIVES? PHYSICAL PRESENCE OR DIGITAL HOLOGRAM (META PRESENCE) IN INTERNSHIPS

Quarantine. Distancing. Reclusion. Lockdown. Discontinuation of regular activities. These are all are words quite used in 2020 and still repeated in 2021. People feel the fatigue produced by the omnipresence of the pandemic, accentuated in Brazil by the current picture of social-political forces that bear upon us. All of us feel a certain hangover from the current way how life walks... That is, activities mediated by

digital technology.

There is a *meme* (from the Greek *mimema*, a unit of cultural information spread by imitation)²⁶ circulating on the Internet saying that everything that we do not want now is a second wave of *lives*, but we already are immersed in this second wave, perhaps a third one. Certainly, other torrents of webinars, tele-classes, and so-called remote activities will come. It would be pertinent to ask whether this exhaustion results from the degree of confounding amidst the physical isolation caused by the pandemic (at least for us, who have the means to protect ourselves) or from our daily immersion in the digital devices? We have compacted time-space in a quantic operation... And do we suffer with the social pandemonium that affects us and the political *pandementia* that depletes us²⁷?

In fact, there is no equivalent alternative to teaching-learning practices like those we advocate for, that is, live education-labor, learning in act. However, would it be possible to create any minimally acceptable (and operational) alternative in the sense of competences certification? It is necessary to open the debate to the new roles played by technologies in the mediation of many social, professional, educational functions. One visible aspect is that micropower is not concentrated by the professor as the exclusive holder of the knowledge that will be conveyed anymore. From trustees of knowledge, we became mediators of vast knowledge kept in simultaneously reachable, globally supplied, and brought up to date electronic repositories.

The early innovators leave ahead of the late ones, although assuming unknown risks. We are holistic beings, we have physical, psychological, social reactions, all integrated, that form our cognitive, emotional, or motor learning – or what already has been called as diverse types of intelligence²⁸. In this way, in a territorial

experience in primary care services, occasionally following a community health worker, in home interviews or program actions next to the team, when providing care to a bed-ridden patient or applying an analytical device to a family core in conflict, or yet, in the powerful beauty of a young mother walking an economic fine line to take care of the offspring and participate in the Freire circle of culture, we all learn... with odors, colors, lights, environments, landscapes, human concreteness²⁹.

The immersion in this real changes the previous (quite often prejudicial) understanding of many of us, with the experience of the different contexts in which life unfolds, becoming learning scenarios with a great andragogic power. This is how – not by miracle, but by gift –, the learning to know, to do, to live with the others, culminating with the learning to be, happens³⁰. Not by chance, we always call them live classes, when there is no mediated human interaction – except by our own senses, our innate equipment –, assigning to this experimentness the additional attribution of learning together with sociability.

What to do with activities that, at the first sight, seem hopelessly demanding concerning the presenciality (and, indeed, are demanding), demarcating the teaching-learning process? In the universe of health undergraduate courses, for example, there was an exponential rise in recent publications addressing virtual education in basic, clinical, surgical, and internships areas, in practically all medical (sub)specialties^{2,31-42}. There was even reference to the corpse virtuality in experiences with anatomy classes⁴³.

A few experiences, still incipient and not published, begin to be outlined in the Brazilian dentistry regarding exercises with online internships scenarios – so that we do not give up of them in pandemic times. For instance:

- (i) Thorough geospatial scanning,

provided by digital technologies – thematic maps of urban neighborhoods that can be navigated (and explored) with the precision supplied by satellite images: thus, territorialization is experienced in computer screens with visualization of neighborhoods, areas, micro areas, and homes.

(ii) Intensive use of information systems, either from official agencies (Brazilian Institute of Geography and Statistics – IBGE; SUS Department of Informatics – Datasus; City and State Departments) or by means of secondary data bases or online research: hence the use of available (or constructed) indexes and indicators for sociodemographic, epidemiological, and clinical characterization of populations circumscribed to the operative areas of the primary care services where the internships happen.

(iii) Interviews or webinars with managers and health teams: therefore, the possibility of understanding roles, attributions, sanitary responsibilities of the distinct health providers working in practice/learning scenarios.

(iv) Project-based education (PjBL) or resolution of situation-problem, with actual family cases that many professors have in their files of lessons/internships; discussion of proposals for family approach, use of genogram/family genogram, cycle of life, online family interview under strict (bio)ethical principles, amongst others, and resolution of actual cases.

4 THE CONCEPT OF PRESENCE

To deepen the educational potential of such options, in the future it will be necessary to deepen the concept of presence^{44,45}. Despite the interest of the researchers for research on presence, there is not any well-defined and widely accept concept on what presence is yet. There is a range of denominations – telepresence,

social presence, self-presence, copresence, mediated presence or virtual presence^{46,47} – and such polyphony/polysemy is due to the interdisciplinarity of the new field.

On the other hand, we know well what the organic sensation of presence is in its corporeality⁴⁸. Presence can be the being there: immersion in the actual, on-site world, but also in movies and inspiring art in general, entertainment, games, or memorial daydreams and recollection of trips, loves, adventures, anyway, the immaterial thought that makes one to fly... And even more, the social presence which is the being together in real time: it can be by phone, letters (increasingly rare), e-mails, chats, social networks. Or, more usual now, the copresence, being together in a shared environment: face-to-face connection in a digital environment, by streaming, videoconference, videocalls – even because we, professors, are becoming full time streamers.

Presence has already been described as the (illusory) perception of what would not be mediated⁴⁹. This exercise of capturing the world (the exterior one, outside the mind) and internalizing it through the senses is called sensorial perception, bringing the following order of problems: I) which neurophysiological systems and processes are in the origin of the capacity of perceiving? II) how was this *naturally* adapted until reaching the *Homo sapiens*? III) which mental processes are in the origin and which outcomes seem to result from them? As explaining the physiological mechanism in the origin of a certain perception is one thing, another one, quite different, is to explain which mental state is this, its phenomenological content, the experience that stems from this content and, also, how this experience can be founding of knowledge – or, in the present case, of teaching-learning⁵⁰. Also, there is presence perceived as a state of

conscience: the sensation of some external stimulus, of some environment, in relation to which we experience a sense of absorption, a natural and whole interaction⁵¹.

Presence can be also thought as a psychological state in which virtual, *almost authentic* or *authentic* objects are felt like actual objects in a sensorial or not sensorial way⁵². Additionally, nowadays one fears the increased reality; dimensions of space (length, width, height, depth) and time in gradual compacting. Quantic effects in a semantics web that does not alternatively process codes configured like 0 and 1 anymore, but rather simultaneously, what can generate a scale of extra-human informational processing!

With this brief theoretical incursion on the concept of presence, it is not, therefore, curious that our students, in on-site lessons, had the old habit of answering to the roll call saying present! Well, actually, increasingly less..., and in fact this does not use to represent, in recent times, much in terms of effective social presence, since invariably many are connected with their call phone⁵³. It can be physical presence only, without any human interaction. There are debates, also, on the absent-present and the present-absent^{24,25} – and this warning is also valid for professors who, even when supposedly present in on-site activities, do not produce the necessary cognitive-affective interchange with their groups of students.

Thus, the means can successfully provide to the users the sensation of proximity and privacy that usually would be felt only with physical presence. In any way, let's not fool ourselves... Almost everything that we feel and perceive in the so-called actual world is captured by the human sensorial system, formed by senses: sight, smell, taste, hearing and touch, which provide us information from the world through the environment. Therefore, even natural

interactions are mediated. For example, we only see because we have light as a means, we only hear because we have air as a means⁴⁴.

Therefore, we create and act on/with the technology, but we shall not forget that it, the technology, retroacts on us. Therefore, the concept of trans humanity has already been discussed⁵⁴. The speed of presence of the technique in our life exceeded the scale of *Anthropos*, that is, there is an anthropological turn produced by the technique for which our evolutive equipment is not fully prepared. Our emotional-cultural (reflexive) time is slow in front of the algorithms and artificial intelligence. Still, would we be creating a misconception when separating virtual and real world in our present and immediate future? Would or would not, now/already, our information (or digital footprints) be an integral part of our hybrid identities?

On the other hand, our trend, especially for those who migrate from analogic to digital, is to believe, due to the immateriality of these interactions among faceless – or with a face, but mediatized by technology – individuals in the indeterminate cyberspace⁵⁵, now better designated as infosphere⁵⁶, (pairing with biosphere), experiencing not only the online, but rather more intensely the onlife – that it is advocated that it does not make sense anymore to speak on *online* and *offline*, as our life is connected the whole time⁵⁷. What is the perception of the real for a child who, in the first year of life, touches the screen of the cell phone (*touch screen*)?

As Umberto Galimberti warns⁵⁸, we continue to think the technique as an instrument at our disposal, when it became the environment that surrounds and constitutes us according to the rules of rationality that, mixing the criteria of functionality and efficiency, do not hesitate in subordinating the requirements of the man to the

requirements of the technical apparatus.

Without knowing, we still move with the typical characteristics of the pre-technological human, who acted in sight of a horizon sense, with a set of ideas and feelings in which they recognized themselves. But the technique does not tend to a goal, it does not promote a sense, it does not open the scenario of salvation, it does not redeem, it does not disclose the truth: the technique only functions or, is created to function. And its functioning becomes planetary⁵⁸.

5 FINAL REMARKS

The questions of our (pandemic and post-pandemic) time are many, still without clear answers. For sure, we already know that:

a) Local and transnational distances were breached, existing a type of time/space compacting.

b) We can carry through the planetary distribution of our presence, almost as we had the gift of ubiquity.

c) We witness the algorithmizing of education with artificial intelligence. We recognize that we may be replicating the teaching mediation deficit in the cognitive and affective plan, as well as in digital education – that is, problems known in on-site education.

d) The power hold by the professor and demonstrated in the master class of the past, based on the rhetoric of the holding of sources of knowledge, is practically over, demanding now mediation, collaboration, production of motivation, engagement, inclusion, and student enchantment.

e) The storage, access, and recovery of information are practically inexhaustible, not being seen a limit for its online availability.

f) Apparently, professors will be a mid-term between teacher and streamer.

g) The university executives and

managers quickly perceived the profits of scalability, connectiveness, and economy of means in the digital situation propitiated by the pandemic: the question will be to decide in the future on the complementariness or substitution of traditional forms of education.

h) The students, already in this generation but increasingly in a greater number in the future, will be connected – not migrants, but vitally familiarized with the digital and gamified world.

What comes next, in a close horizon? The new powers concentrated through the so-called 4.0 technological revolution, with I 5G internet and surrogates, the dissemination of the society of platforms. Then, the new generations, perhaps, may again experience the unique experience of on-site/virtual internships in SUS, having the possibility of constructing a new world – yes, the doors of the future are open, and it is possible!

RESUMO

Ensaio sobre visibilidades e cegueiras no mundo formativo da Odontologia: parte 2 - os estágios e o ensino on-line (remoto)

O ensaio, parte 2, enfatiza o uso ampliado de tecnologias informacionais de ensino virtual (ou remoto) e as possibilidades de inovações nas práticas pedagógicas, técnicas e políticas com especial destaque para a práxis dos estágios curriculares em Odontologia. O foco aqui debruça-se sobre como no cenário pandêmico produziram-se, pelos órgãos corporativos e nos âmbitos institucionais, normativas de gestão digital das práticas profissionais e educacionais e seus reflexos em se tratando de estágios no Sistema Único de Saúde. Conclui com a crítica sobre as relações ambivalentes entre o humano e o tecnológico, em particular sobre o conceito de presença no contexto pandêmico, mas indagando também sobre horizontes futuros pós-pandêmicos no universo educacional.

Descritores: Educação em Odontologia. Pandemias. Educação a Distância. Infecções por Coronavírus. Currículo.

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