

FROM PRESENTIAL TEACHING TO VIRTUAL TEACHING: REFLECTIONS ON SUBJECTIVITY IN THE TRAINING OF PHYSICAL EDUCATION TEACHERS IN PANDEMIC TIMES

DO ENSINO PRESENCIAL AO ENSINO VIRTUAL: REFLEXÕES SOBRE A SUBJETIVIDADE NA FORMAÇÃO DE PROFESSORES DA EDUCAÇÃO FÍSICA EM TEMPOS DE PANDEMIA

DE LA DOCENCIA PRESENCIAL A LA DOCENCIA VIRTUAL: REFLEXIONES SOBRE LA SUBJETIVIDAD EN LA FORMACIÓN DEL PROFESORADO DE EDUCACIÓN FÍSICA EN TIEMPOS DE PANDEMIA

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ABSTRACT: This article deals with the topic of teaching in the training of Physical Education teachers in pandemic times, Covid-19, in Spain. For that, we will take care of reflecting on the alternative methodological strategies to the classes of physical-sports practice, in the transition from presential teaching to semi-presential or not presential teaching. Three will be the key topics in the foundation: a) Practical knowledge in the training of Physical Education teachers; b) Virtual environments and information and communication technologies in the training of Physical Education teachers; c) School Physical Education in times of Covid-19. Finally, we have made a reflection regarding the subjectivity of teaching activity in pandemic times.

KEYWORDS: Physical education. Training. Methodologies. Virtual environments. Pandemic.

RESUMO: *O presente estudo aborda o tema do ensino na formação de professores de Educação Física em tempos de pandemia, de Covid-19, na Espanha. Para isso, nos encarregaremos de refletir sobre as estratégias metodológicas alternativas às aulas de prática físico-esportiva, na transição do ensino presencial para o ensino não presencial ou semipresencial. Serão três questões fundamentais na fundação: a) Conhecimento prático na formação de professores de Educação Física; b) Ambientes virtuais e tecnologias de informação e comunicação na formação de professores de Educação Física; c) Educação*

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Física Escolar em tempos de Covid-19. Por fim, fizemos uma reflexão sobre a subjetividade da atividade docente em tempos de pandemia.

PALAVRAS-CHAVE: *Educação física. Formação. Metodologias. Ambientes virtuais. Pandemia.*

RESUMEN: *El presente artículo aborda el tema de la docencia en la formación del profesorado de Educación Física en tiempos pandémicos, de la Covid-19, en España. Para eso, nos ocuparemos de reflexionar sobre las estrategias metodológicas alternativas a las clases de práctica físico-deportiva, en el paso de la docencia presencial a la docencia no presencial o semi presencial. Tres serán los temas clave en la fundamentación: a) El conocimiento práctico en la formación del profesorado de Educación Física; b) Los entornos virtuales y tecnologías de la información y la comunicación en la formación del profesorado de Educación Física; c) La Educación Física escolar en tiempos de Covid-19. Para finalizar, hemos realizado una reflexión con respecto a la subjetividad de la actividad docente en tiempos pandémicos.*

PALABRAS CLAVE: *Educación física. Formación. Metodologías. Entornos virtuales. Pandemia.*

Introduction

Throughout the 20th century, there were different pandemics (Spanish flu 1918-20; Asian flu 1957-58; Hong Kong flu 1968-70) that affected different countries and led to the death of millions of people. The 21st century started with some influenza that have attracted the attention of health authorities and were quickly controlled, such as avian flu (2003-04) or influenza A (2009-10) (GARAY, 2020). However, it was in 2019 that the virus emerged that would change the way of seeing the world for an entire generation that has grown up with access to different vaccines and is used to having the "solution to problems" very quickly. The SARS-CoV-2 coronavirus, known as Covid-19, appeared in the Chinese city of Wuhan in December 2019 and quickly spread to other cities and countries (MARTINS, 2021). Thus, different institutional alarms were ignored, something that would probably delay the evolution of the pandemic, but not stop it. Thus, on March 11, 2020, the World Health Organization (WHO) declared that, given the evolution and spread of the Covid-19 virus, it could be characterized as a pandemic (WHO, 2020). In Spain, on March 14, the state government declared a state of alarm due to the pandemic, extending until May 2 of the same year (first state of alarm).

The establishment of the pandemic declaration led virtually every country in the world to take preventive and restrictive measures, acting accordingly, adapting the way of living,

being, living, knowing, and doing, and that is where this article focuses on social adaptations within the teaching-learning process approach, more specifically in the teaching practices of Physical Education teachers, henceforth PE.

Covid-19 led to lockdowns all over the world. Airports were closed, cities closed their borders, people were confined to their homes, the world practically stopped. The disruption, however, was metaphorical, stopped on a physical level, face to face, because to minimize social and economic affections, a great social adaptation was generated, the world moved into a virtual dimension. In a hurry, companies, universities, governmental organizations had to make and manage a great structural change, moving from the face-to-face to the virtual frame. In this adaptation process, many problems were evidenced, at different levels. Among so many problems, those related to education stand out (GARCÍA-PEÑALVO, 2020). The first problem identified (and which persists) is related to universal access, the gap in access to the communication network, since not all people have an internet connection (IACHR, 2021). The second problem refers to the usage gap, the availability of equipment needed to connect to the network, such as computers (laptops or desktops), tablets or Smartphone (SANMARTÍN, 2021). And finally, it mentions specific office skills (OECD, 2020), the competence gap, how to use tools (equipment or programs) that sometimes seem to be a routine matter, but this reality has shown that this is not the case (GARCÍA-PEÑALVO, 2020).

Besides these structural and organic problems of the socio-educational envelope, there is an aggravating factor in the case of PE given the specificity of the theme, ratified in its curricular order, whether in early childhood, elementary school, high school or even in the training of future teachers at the university. This aggravating factor refers to the body experiences of physical activity and sports actions that are linked to practical, face-to-face, and collective knowledge.

The conditions imposed by the pandemic (confinement, distance, fear, etc.) will thus generate the impediment of body work in physical contact with other people, essential principles for the promotion of social and emotional relationships, thus translating into absent bodies (VAREA; GONZÁLEZ-CALVO, 2021). These modifications in the intervention of PE faculty have generated pedagogical problems (BAENA-MORALES; LOPEZ-MORALES; GARCÍA-TAIBO, 2021) that lead to critical reflections such as those made by Martínez-Egea (2020) that highlight the difficulties faced during the pandemic and the uncertainties of the post-confinement future.

Faced with this situation, teachers have had to adapt their classes and, to do so, have made different adaptations to their pedagogical proposals. Educational adaptations, according to González Rey (2001), are linked to the conceptual macro-oriented to the understanding of the psyche, which leads us to the representation of social subjectivity indivisible from individual subjectivity. According to the author, the impact of the two subjectivities for education is very large, as it influences methodological, theoretical and practical changes. In other words, the individual is inherent to society and any change will affect the collective and individual structure.

According to all this, this work aims to reflect about subjectivity in teacher education, taking into consideration the different alternative methodological strategies to the physical-sports practice classes, which in the transition from face-to-face teaching to face-to-face or blended teaching have been able to accomplish the different teachers who develop their social function through PE teacher education. To this end, we organized this reflective study on three fundamental themes: a) Practical knowledge in physical education teacher training; b) Virtual environments and information and communication technologies in physical education teacher training; c) School Physical Education in times of Covid-19. Finally, we reflected on the subjectivity of the teaching activity in pandemic times.

Practical knowledge in physical education teacher training

Teacher training, to follow the trends of the EHEA (European Higher Education Area), should be oriented towards the competence model. The Tuning Project (GONZÁLEZ; WAGENAAR, 2003) is a basic document for competence training at the University and makes it clear that competence cannot be separated from action and is totally linked to practical knowledge.

This link to practical knowledge in teacher education has a double meaning. On the one hand, it implies a connection with school reality and, on the other hand, it implies a reconstruction of their own experiences in physical activity and sports to give it an educational value.

The connection with school reality lies in the need for students preparing to be teachers to rethink theoretical knowledge in light of this practical reality (LAMPERT, 2010; ZEICHNER, 2010). This means going beyond the connection between the academic field and the school environment, since it also requires delving into the analysis of the cultural and social processes of our environment and the different ways of acquiring knowledge

(RODRÍGUEZ-MARTÍNEZ; GUTIERREZ, 2014). Authors who associate teacher education with social changes also stand out, as would be the case of Fullan and Hargreave(1992) or Fullan(2013).

As for the reconstruction of experiences in physical activity and sport, Devís-Devís (2018, p. 61) makes the following reflection referring to school PE:

On the other hand, we must also reconstruct the isolated and fragmentary practical knowledge that brings students to physical education classes... the subject's practical experiences must facilitate connections, look for structures, patterns or algorithms of action to connect them with each other, link them to other broader physical activities or to the activities of daily life.

This reflection is perfectly applicable to our idea that future teachers must reconstruct their practical knowledge and give it the corresponding educational value. The competency formation of PE teachers and its link with practical knowledge has been the subject of several studies, among which stand out those that try to determine the competencies that this group should have, as Contreras (2012) explains. This training also appeals to the social commitment necessary to be a teacher or professor of PE (BROWN, 2005; HERNÁNDEZ ÁLVAREZ, 2004; PASCUAL BAÑOS, 2004; SIRNA; TILÁ; ROSSI, 2008; TIMKEN; VAN DER MARS, 2009; TINNING *et al.*, 2001).

In this sense, it should be emphasized that university students can learn the contents of their discipline and the methodologies used, but the process will only be genuinely effective if they are able to recognize the role that their actions will play in the social environment (ARTHUR; BOHLIN, 2005; EGERTON, 2002; HOEKEMA; EHRlich, 2000).

In this context, several methodologies, such as Simulations, Direct Action Workshops, Service Learning Projects, Real Life Practical Situations (RS), Problem Based Learning, Inquiry Learning, Flipboard Classroom aim to bring future and prospective teachers closer to the reality of schools and, furthermore, to facilitate the reconstruction of practical knowledge (BILLING; WATERMAN, 2003; LLEIXÀ ARRIBAS *et al.*, 2018; LOPEZ-ROS; SERRA; VILÀ SUÑÉ, 2016; TIMKEN; VAN DER MARS, 2009).

Virtual environments and information and communication technologies

It is possible to find numerous literatures related to virtual environments and information and communication technologies (ICT hereafter) in teacher education. Gros and Silva (2005) state that teacher training incorporates "the necessary training for the design and tutoring of virtual learning environments" (p. 12), presenting guidelines for the creation of

collaborative learning environments that enhance knowledge construction, perfectly applicable to university teaching. Marcelo (2007) makes a proposal of quality standards for teacher training programs through distance and open learning strategies. Based on this proposal, Marcelo and Zapata Ros (2008) created a questionnaire to evaluate the quality of this training. In another line of arguments we can find those studies that argue that for future teachers to acquire skills in digital technologies it is necessary for these to be present in their training. Many of these studies refer to the TPACK (Technological Pedagogical Content Knowledge) described by Koehler and Mishra (2009).

The didactic use of digital technologies in the university is another topic widely discussed in the literature. Grané and Casas (2020), making an analysis of these technologies, make it clear that they are effective didactic needs so that their use favors teaching methods and promotes learning processes.

Framed in the TPACK line of argument, to which we referred earlier, is where we find the few studies on information and communication technologies in PE teacher training (FERNÁNDEZ-ESPÍNOLA *et al.*, 2018). It must be said that most studies that address this issue do so from the perspective of the knowledge that these teachers have about ICT and the intentionality of their use, as would be the case of Calvo (2013) or Díaz-Barahona, Molina-García and Monfort-Pañego (2020).

We can, however, fill this lack of studies focused on teacher training with numerous publications on the use of information and communication technologies in school PE that can serve as guidance on the possibilities that open up for university teacher training in this educational area. Notable among these are the studies by Capllonch (2005), González *et al.* (2016) and Prat, Camerino and Coiduras (2013).

In relation to the topic in question, ICT in times of Covid-19 and PE, Díaz Barahona, Molina-García and Monfort-Pañego (2020) carried out an analysis on the knowledge and didactic intentionality in the use of ICT of PE teachers, finding that the vast majority of PE professionals have a positive attitude towards information and communication technologies, acquiring the commitment to train them with the aim of promoting didactic and pedagogical innovation. On the other hand, however, there are more distant attitudes in which it is recognized that the use of ICT promotes passive behavior in PE students; a fact that, part of the PE teachers consider that it promotes the opposite of what is advocated from their educational area: physical activity. In this sense, there are teachers who, in a younger age group, tend to encourage the use of ICT in PE, while older teachers are more reluctant with them.

On the other hand, Piedra (2020) analyzed the use of PE social networks in Covid-19 times, finding different people who used networks such as Instagram, Youtube or TikTok to advertise challenging activities or physical exercises with defined goals for PE. However, the author highlights that a large part of the production of videos related to PE were made by *influencers*, something very dangerous. In this sense, Díaz Barahona, Molina-García and Monfort-Pañego (2020) recommend encouraging continued educational policies to assist the use of ICT and enable, for example, methodological hybridization. Something also advocated by authors from other countries, such as Turkey, for example (YÜCEKAYA; SAĞIN; UĞRAŞ, 2021).

In line with the above, Quintana (2021), points out that the ICT applications most used in virtual classes correspond to the most popular ones outside the academic field, such as WhatsApp, Telegram, Meet, Zoom, e-mail and Moodle of universities.

School Physical Education in Covid-19 Times. Pandemic Beginnings

Physical activity, Physical Education and sport, especially in childhood and adolescence, represent some of the areas most directly affected by the consequences of the pandemic. A thorough review of traditional uses is necessary, since the restrictions resulting from the different prophylactic measures affect almost the essence of the curricular area in question. Although we can state that there are still more doubts than certainties, we will have to look for alternatives that allow, with the necessary adaptations, but trying to minimize the negative effects, to develop the activities of a curricular area with many important effects on personal and collective development and formation at school age (BATALLA, 2020).

Some authors, such as Martínez Egea (2020), refer to the harmful effects of lack of physical activity in times of pandemic. Márquez (2020) offers recommendations for safe practice based on individual space and possibilities. With the same intent, Hammamiet al. (2020) propose a series of recommendations for staying active at home, with aerobic exercise on a bicycle or rowing ergometer, body weight training, dancing, and active video games. Silva-Filho *et al.* (2020) highlights the PE teacher as an essential professional during this period, linked to the health area (as it is in Brazil) because he/she can guide and encourage people to practice regular physical exercises.

On the other hand, harmful effects are also given by the lack of social interrelationships and body experiences that, under normal conditions, provide school physical education. Teachers must seek alternatives to overcome the bodily and social

detachment (MERCIER *et al.*, 2021). The same was indicated by Álvarez (2020) in a webinar where he shows ways to connect through online body expression activities. González-Arévalo (2020), in the webinar itself, sets out a Decalogue to take into account in EF in distancing. Summarizing his words, the recommendations would be:

1. based on the confinement experience that you suddenly responded to;
2. project different scenarios and make different proposals due to the uncertain situation;
3. take into account the context and the availability of resources;
4. of the curriculum;
5. not to think so much about the activity and think more about what we do things
6. ensure learning
7. don't lose the essence of the area, that is, the motor skills;
8. establish clear and qualitative criteria so that when children perform they know if they are doing it right or wrong;
9. improve the children's autonomy;
10. take families into account.

It is possible to draw a parallel of the previous decalogue with the indications exposed by Cuenca-Soto *et al.* (2021) when analyzing perceived limitations and proposals for improvement in PE. According to the authors, teachers had to make changes in content selection and sequencing, taking into account certain criteria, such as:

- (1) prioritize hygienic-sanitary measures and reduce contact;
- (2) meet the students' interests and ensure that the contents were meaningful;
- (3) develop activities to be able to do them as a family;
- (4) avoid sharing materials;
- (5) avoid overlapping content between classes;
- (6) use recycled materials;
- (7) adapt the contents to be able to do them in class or at home if a new confinement occurs;
- (8) adapt to the students' characteristics and their environment;
- (9) combat obesity problems;
- and (10) allow students' autonomy (CUENCA-SOTO *et al.*, 2021, p. 272).

Likewise, in anticipation of the actions to be taken for the 20/21 school year in Spain, the Colef *et al.* Council (2020a) has established recommendations that refer to scheduling, safe practice and use of materials and facilities. Finally, of great interest are the repositories of resources that during confinement have provided different administrations, associations and professional associations among which we point out as an example those of the Colef Council (2020b).

Ramírez, Herrero and Jimenez (2021), took these recommendations and the documents/repositories as a reference and presented a didactic experience that they were able to carry out achieving specific proposals (outcomes-sessions), using methodological adaptations that enabled the development of daily work.

School Physical Education in times of Covid-19, real proposals

In a narrative review study on exercise and Covid-19, Vancini *et al.* (2021) found a 76% increase in publications between April and June of the year 2020. Certainly, the figure is higher if we take into account the entire year 2020 and even more if we consider 2021. In this sense, what is intended here is not to make a literature review, but to mark some guidelines for the main reflection, subjectivity in teaching and teacher training.

Although we can analyze the different educational levels in isolation, it can be said that professionals linked to physical education, at different levels, have been able and know how to adapt their tasks to achieve an educational minimum.

In a study conducted by Nieto *et al.* (2021), regarding the perception of PE teachers in relation to distance education (DE), they have seen that educational centers have achieved curriculum adaptation in a positive way and that teachers have been able to slowly work better and more securely with the new teaching system.

However, other authors (ALCALÁ; GARIJO; PÉREZ-PUEYO, 2021) showed how teachers at different educational stages agree on the negative implications of teaching PE with physical distance. They point out that university faculty point out the need to reconsider the subject's objectives to adapt to this new situation, while school teachers admit to being very limited in terms of the content to be taught. On the other hand, (university career) students express concern about the application of the contents learned during their career, in their professional life.

In turn, Baena-Morales, López-Morales, and García-Taibo (2021) analyzing professional activity during confinement saw that a large part of the activities sent to students were related to content related to physical fitness and health. This content is extremely linked to the motor aspect of the subject and, due to the infeasibility of performing activities in a face-to-face format, generated great complexity for the PE teacher. At the same time, the authors noticed that the interaction with students has been a different difficulty for teachers, depending on their knowledge and management with new technologies. Teachers more accustomed to the use of ICT have maintained a more fluid communication with their

students, through virtual platforms and e-mails, while those less qualified in this sense, have had greater difficulties. Due to the impossibility of face-to-face evaluation, the study indicates that 14.3% of teachers would not evaluate, and only half confirmed that they would evaluate, something different from that presented by Fuentes *et al.* (2021), when he explains that most of the teachers surveyed reported using formative evaluation.

In another study, which deals with PE for children at home, Burgueño *et al.* (2020) developed a didactic proposal (flexible and possible adaptation according to each school group) for students to perform PE at home, keeping the idiosyncrasy of the subject itself and respecting the curriculum. In this sense, and taking into account several aspects that may favor or hinder the proposed activities (home space, number of relatives, materials, etc.), the authors indicate activities related to challenges and motor actions, such as:

1. Individual in stable surroundings; → make movements with toilet paper with household material.
2. With opposition; → set up a circuit at home with badges.
3. In cooperative situations, with or without opposition; → acrosport figures.
4. In situations of an artistic nature or expression; → disguising oneself to make a video.
5. Adaptation to the physical environment; → performing actions (such as washing your face in the bathroom) in different spaces of the house.

Thus, the didactic proposal presents ways to develop the subject of PE involving, whenever possible, the family itself; a relevant aspect for students to maintain their willingness and motivation to perform physical activity. We can highlight the conformity with the indications proposed in the decalogue proposed by González (2020).

Martínez-Hita (2020) explained some guidelines for PE sessions during confinement. The author draws attention to the importance of knowing what the students' motivations are in order to design activities that favor the greatest possible involvement during the PE sessions held inside the homes. In this sense, and although the physical activities themselves already confirm a greater willingness to perform physical activity, the study shows how music is a great way to encourage student participation, as well as the proposal of physical challenges (or challenges) that must be overcome to achieve the proposed goal. On the flip side, we found that if the proposed physical activity offers little autonomy, it tends toward boredom and discomfort; results that are reflected in the design of overly directed activities. In this

sense, although he mentions aside, theoretical contents in PE sessions deserve, these end up being the most expensive task to be performed by students. However, it should be noted that the theoretical contents should be introduced in the PE sessions, however, making the collective class aware of its importance (inside and outside the classroom) so that the effort to be made by the student also has a motivating character.

On the other hand, in an investigation to analyze different proposals of PE at home from a curricular perspective, aiming to know their characteristics, share examples of good practices and offer teachers useful guidance, López-Fernández *et al.* (2021). showed a profile of activities that should be performed individually, presented as a challenge, following a model available through an Internet video.

Educational subjectivity in the practical training of Physical Education teachers

We took as a reference for the interpretation of subjectivity the understanding proposed by González Rey (1998, p. 236-237) in his work on social subjectivity, subjectivity, and social representations. For the author, human subjectivity has the following characteristics:

It represents a constitutive organization of each moment of the subject's action, which actively intervenes in the constitution of his subjective meaning, but not as a rigid and a priori determinant, but as part of the very constitutive process in which the subjective meaning of all human action is defined. The constitutive organization of human subjectivity is personality.

Subjectivity has a historical character. The social becomes subjective in the individual's own history, constituting itself into another system; subjectivity. It is legitimized through its own history and the needs that develop in it. The acquisitions of each new moment of development become part of the configurations that will define new acquisitions in this process, which will always represent a new constitutive moment in relation to the previous one, never a cumulative extension of this one.

Subjectivity is expressed as a system in constant development. Development is a quality of the system that occurs through the action of the psychological subject, who permanently engages in new social bonds that, constituted in and through his personality, simultaneously represent a changing moment of this in the mediated course of his existence.

Subjectivity expresses itself differently in a specific subject, therefore, its theoretical construction cannot be supra-individual. The subject in his reflexive, experiential, and interactive dimension is part of his own development, whose forces are not external to him, but a constitutive part of his present moment.

Linking subjectivity and PE teaching in pandemic times, we can make use of the work of Villaverde-Caramés *et al.* (2021) about the characteristics of being a good teacher.

According to the authors, it is not easy to identify, point by point, what makes a PE teacher competent and, at the same time, satisfies all his or her students. However, through their literature review study, they find certain aspects that can contribute to achieving both goals and that, therefore, should be considered in teacher education. For the authors, knowledge of the area itself would be a starting point for subject development. This allows the teacher to be able to plan, schedule and design all the contents in a proportional way and, moreover, to know which methodological resources (that are at his or her disposal) will be the most efficient to achieve the best results in each case. At the same time, the ability to adapt the designed activities is, in turn, another factor to be highlighted. In this sense, a good teacher is considered to have the ability to apply his tasks as required by the students' characteristics and needs, intervening in them when necessary. This, in turn, allows the good teacher to recreate contexts in which assessment is adapted to the student in a formative, equitable and fair way. While the above elements constitute the teacher's pedagogical ability (the factor most valued by students), the attitude toward students, the presence of values, and the creation of an ideal context are also considered relevant aspects for an adequate teaching performance. In this way, the treatment with the students should be close and applied through a cordial and good-humored atmosphere. Progress should also be encouraged, and sports beyond school should be emphasized. Overall, it can be concluded that the teacher should be a role model for his or her students. Overall, and to raise the quality of the teaching-learning processes, these elements should be present during the training periods of future teachers.

Subjectivity within teaching, therefore, must consciously exist as a *sine qua non* condition, given educational multiplicity. We educators, given the speed and amount of information available in our environment, must be especially attentive to our students to facilitate learning, either by adapting content, teaching methodologies, or both. As Izaguirre Remón and Alba Martínez (2016) point out, "learning is not only an intellectual process, but a subjective process that integrates very diverse subjective senses, which are activated and organized in the course of the learning experience" (p. 453).

According to González Rey e Patiño Torres (2017, p. 123)

subjectivity is the complex way in which the human psychic occurs in the development of persons and of all human processes [...] subjectivity allows us a conception of mind that is inseparable from history, culture and the actual contexts of human social life.

Subjectivity is, therefore, present in the teaching-learning process, a space for the construction of meanings and senses,

which occurs essentially in interaction with social and cultural contexts and agents through and through communication and activity. [...] In this interaction, new meanings are shared and constructed; that is why it is an individual and social experience (REMÓN; MARTINEZ, 2016, p. 451-452).

Thus, the pandemic situation has exponentially raised the level of need for educational adaptations, for different reasons. As indicated above, adaptive capacity is a contributing factor to teacher quality, but the pandemic has challenged teachers for the immediacy in which they have had to act. Perhaps, the lack of time for preparation for the new teaching environment has been the most striking feature. At this point, Silva-Filho *et al.* (2020) draws attention to a very important pattern: the relationship between the adaptations made due to Covid-19 and the use of ICT within education. According to the authors, there is a difference between Distance Education and Emergency Remote Learning (ERL). In DE there are defined and theoretically supported theoretical, methodological and specific conceptions. At the same time, in ERL, what there is is a temporary adaptation to achieve educational academic continuity during the time of social distance, moving from a face-to-face and contact educational system to a remote or hybrid system. Universities with DE programs, for example, have been working from virtuality for years and have had to make minor adaptations to respond to the volume of new students that have enrolled because of the pandemic. On the other hand, teachers connected to face-to-face education have at least had to familiarize themselves with the virtual environment. In turn, PE teachers have had to reformulate pedagogical strategies and adapt practical activities, often performed collectively, toward an individual and virtual environment. In this sense, González-Calvo *et al.* (2022) call attention to the fact that not everything can be done virtually. From their study, the authors encourage a critical dialogue about the difficulty faced by PE teachers in educational adaptation in times of Covid and, especially, with the disenchantment with online methodology.

Varea and Gonzalez-Calvo (2021), in turn, investigated bodies absent from PE classes. The object of study were PE teachers-in-training. The results suggest that teachers-in-training experienced a mix of emotions during this time. There was a longing for physical contact with their peers and they believed that the discipline of PE had lost its identity as a result of the pandemic. At the same time, the researchers indicate the intensification of the feeling of fear and insecurity on the part of the future teachers. This was also found in the study by Gonzalez-Calvo *et al.* (2020) when researching future PE teachers during their internships.

Regarding emotions, González Rey and Patiño Torres (2017, p. 123) indicate that "subjectivity emerges when emotion becomes sensitive to symbolic registers, allowing man a production about the world in which he lives, and implements adaptation to it".

For González Rey (2008), social transformations generate symbolic-emotional consequences in the subjects, in subjective senses, different in each person, that generate a personal transformation that allows the individual to live in the new moment. It is cyclical. In the same vein, Souza and Torres (2019) state that subjectivity is social and individual, reciprocally shaped. For the authors, the subjectivity of a social space connects with the subjectivity of the individuals who constitute it. At the same time, it is impossible to "understand the constitution of individual subjectivity without considering the subjectivity of the social spaces that contribute to its production" (MITJÁN MARTINEZ apud SOUZA; TORRES, 2019, p. 36).

Final remarks

In short, Covid-19 has generated major structural changes within public and private institutions around the world. It has accelerated the development of technologies and made it possible to distribute them to different parts of society that might have taken a few more years to receive the equipment, training, and network. It is also true that at the speed with which technologies advance, it is necessary that we also continue to move towards "digital literacy" with continuous training.

From another perspective, it exposed the structural, access, use, and competition gaps on the part of the participating subjects of the educational society. Teachers have had to reinvent themselves, work hard, adapt. Social adaptations have had a direct impact on individual professional tasks, that is, endorsing the reciprocity existing in social subjectivity that, at the same time, generates individual changes.

The initial moment of the pandemic generated great protests, great concerns about the educational results, which in the end, or worse, were obtained. The teachers managed to accomplish the teaching task, through what some attribute to resilience and others justify by subjectivity, that is, when some people can "suffer" less or be more adequate to the changes generated by the social structure.

In the case of PE teacher training, the problems generated by adaptation to virtuality have increased. It is unanimous that face-to-face and joint practices should be carried out, precisely because this is a theme that deals with interpersonal relationships within social

environments, such as games, for example. However, there are countless distance learning courses, authorized by the responsible bodies, which form PE teachers, both infant and elementary school, virtually and only aim at face-to-face practices in specific subjects.

In this sense, it is necessary to continue advancing in studies that make it possible to analyze the different strategies of inter-individual interaction remotely. If it is not necessary for the general population to use these strategies, that is, if we don't have to be confined again, at least we can offer people who temporarily cannot be present in Schools or Universities adequate educational resources.

Finally, the truth is that, from the point of view of subjectivity, what is certain is that we will continue to have to adapt to new forms of organization and communication within education.

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