

The impact of COVID-19 on the education of Cuban university students

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Abstract

Across the world, the impact of COVID-19 has necessitated some tough decisions in relation to education. In Cuba, universities have been transforming and adapting their provision in order to be able to develop distance learning in their different programmes, and in order to address social problems. Cuba's starting place for this transformation was very different to that of other countries, experiencing great barriers to distance learning (principally the comparatively low access and high cost of internet services pre-pandemic and the economic restrictions of the US embargo) at the same time as huge advantages (pre-existing participatory structures and localised, flexible higher education). With this in mind, the principal aim of this article is to share the University of Granma's experiences of delivering distance learning in order to mitigate the impact of COVID-19 on Cuban university students. In this descriptive account, empirical and statistical data show that students and teachers were, initially, insufficiently prepared to manage the effects of the pandemic on the teaching and learning process, but that educational initiatives put in place throughout Cuban universities' academic

structures have enabled the whole university community to use distance learning, across its different modalities and contexts, to face the challenges brought by COVID.

Key words: *COVID-19; higher education; Cuba; Granma; distance learning*

Introduction

When the World Health Organisation (WHO) declared COVID-19 a pandemic, each country began to implement measures to mitigate and counteract its effects on education. Reporting for UNESCO and the International Institute for Higher Education in Latin America and the Caribbean (IESALC), Giannini (2020 p.6) explains that:

This global crisis has provoked a reconsideration of how to offer educational services at all levels. The intensive use of all kinds of technological tools and platforms to guarantee the continuity of learning is the most audacious experiment ever in the field of educational technology, although it was neither planned for nor anticipated.

Similarly, Jiménez and Ruiz (2021) state that, over time, universities across the world have encountered epidemics that have disrupted face-to-face teaching and have, therefore, acted to ensure continuity of delivery. In the new circumstances of 2020, Pérez-López et al. (2021, pa.2) note that ‘universities found themselves compelled to suspend face-to-face teaching and learning and ensure their continuity in a virtual format’.

To meet these new challenges effectively, it was essential to understand the barriers to virtual learning and to continuously evaluate new provision. At the University of Granma (UDG), we did this by collecting initial quantitative data, particularly in relation to access to technology, and by conducting interviews with key actors as the academic year progressed. The main objective of this

article is to share these initial findings through a narrative description of the measures we took when adapting the teaching and learning process, through distance learning, so that our students were able to confront the challenges posed by COVID-19. This account will provide a useful for comparator for others who managed similar challenges in very different contexts and offers a starting point for future work on how these short-term solutions could contribute to longer-term change in Cuban higher education.

Cuba's COVID strategy

Cuba, according to Pérez-López et al. (2021), began its preparations early. In January 2020, before the country had seen a single confirmed case of COVID-19, the Cuban government had instigated an inter-sectoral work strategy, led by the ministries of Public Health and Civil Defence, with the aim of containing, as far as possible, the risk of its introduction and spread and, thereby, minimising the negative effects of the epidemic on the health of the Cuban population. Much of the organisational framework for this strategy was already in place, due to Cuba's 'dense web' of local, provincial and national participatory structures (Collins, 2018), and its well-established disaster-preparedness mechanisms (Kirk, 2017). Radio and television programmes, along with other media, were broadcast to explain the effects and consequences of the illness, not just for Cuba but also for the rest of the world, and to inform the population of the measures to restrict travel and to require isolation and social distancing. Initially, this approach, which, as cases began to be identified, included door-to-door screening, active contact tracing and health centres for the isolation of positive cases (Gálban & Más 2020, p.29 & p.33), was extremely effective, with infection rates in the first months around the average for the region, despite higher levels of testing (Morris & Kelman, 2020., pa.10 & pa.13), and fatalities significantly lower (Gálban & Más 2020, p.30). By April 2021, however,

numbers had risen significantly, with a cumulative 107,622 cases causing 654 deaths (Gamboa et al. 2022, p.5).

Due to the imminent risk posed by the spread of the virus in Spring 2020, it was decided, along with other measures, to suspend attendance at educational establishments from 24th March 2020 (Almeyda et al., 2021). This situation impacted upon higher education, with different institutions taking measures to suspend or continue safely with the academic year according to the epidemiological situation in their area. Universities began to implement actions to ensure continuity in their processes. The plan was comprised of three stages – 1. The recovery and completion of the 2019-20 academic year; 2. The opening of the 2021-22 academic year; 3. The completion of the 2021-22 academic year – and, meanwhile, students and teachers helped in the efforts to counteract the effects of the pandemic on the population.

The institutional response in the face of pressing economic and social demands during COVID 19 was immediate. Silva Correa (2020) emphasised in the Cuban newspaper *Granma* the facilitating role of computerisation (specifically automation and robotics), as well as the export of services and new organisational modes for the training of a skilled workforce. In this regard, the University of Havana, for example, provided and serviced three sites for medical isolation, organised mobilisations of students and teachers, agricultural working parties, blood donations, and research projects in response to the country's most urgent needs, ensured relevant publications and, in a general sense, fostered a philosophy of thinking together as a nation, and of working together with other bodies, for example in more than 40 projects focussed on bioproducts and computerization in the energy sector. According to a report in *Granma* in March of 2021, the University of Havana's students and faculty were responsible for 153 sites that made up part of the Sistema de Atención a la Familia (SAF) in the capital (an organisation that ensures access to basic

foodstuffs for families on low incomes), links between research and government, and the university's participation in vaccine testing, including the complex task of coordinating the province's vaccination sites (Perera Robbio 2021).

Oriente University (the largest and most prestigious university in the east of the country) took on similar roles and, thanks to the development of computing and ICT, all members of the university were able to interact in a virtual campus, by day or night, whether from within the university campus or at a different location (even from home), whether synchronously or asynchronously.

Universities across Cuba took similar actions to ensure continuity of provision during COVID-19, tailoring their strategies to the characteristics of each locality.

Initially, the University of Granma, where this study was undertaken, did not suspend teaching because no cases had then been identified within Granma. This later arrival of COVID to Granma may be explained by its relative isolation. The predominantly rural and mountainous province is in the east of the country, far from Havana and (despite its stunning topography and rich history) not attracting the significant amount of overseas tourism seen in other eastern provinces, such as Holguín and Santiago (ONE, 2016). It does, however, have a significant urban population, including two major cities (Bayamo and Manzanillo), each of which has sizeable university campuses, with education and medicine centred in Manzanillo, while other disciplines (including the university's specialisms of agriculture and veterinary medicine) are studied in and around Bayamo. A particular feature of the Cuban higher education is the existence, since the early 2000s, of municipal university centres that facilitate part-time local study and support local development (Hernández & Benítez,

2006; Núñez et al. 2017). This means that the University of Granma has a presence in each of the province's 13 municipalities.

Each of these campuses saw the implementation of hygiene measures to protect the health of everyone within the university community. These measures included barring external visitors to the institution, the use of digital thermometers to check temperatures, constant mask-wearing, frequent handwashing with a 1% hypochlorite solution and social distancing in classrooms and student residences. Nevertheless, when cases began to be identified in Granma, the university put in place the staff training necessary for a transition from face-to-face provision to blended learning and, eventually, to distance learning. Making use of the university's virtual learning environment, three distance learning strategies were implemented: e-learning (online), m-learning (mobile learning) and b-learning (hybrid learning), which, together, sought to facilitate independent learning.

The challenges of online learning

As a consequence of COVID-19, students and teachers have been compelled to enter into an unforeseen dynamic and face the challenges of distance teaching. Although experienced in delivering university courses through forms of distance learning and 'por encuentro' (independent study supported by weekly or fortnightly sessions and a system of tutorial support) (Smith, 2019), Cuban universities faced significant challenges moving study online, due principally to historically low access to technology and connectivity.

Cuba's first internet connection was established via satellite in 1996, at a rate of 64 kbit/s (Fernández, 2020). Increases in access were slow, due to the US embargo, with just 190,000 internet users by 2008. From 2008, internet access was offered at post offices and then, in 2013, 118 internet hubs across the country, which, together with 600 'Joven Clubs' (community spaces with

computers and internet access), brought coverage to every municipality in the country for cultural, educational and research purposes. All Cuban universities now have the internet, and access is expanding to include all schools.

From 2014, the monopoly state telecommunications provider (ETECSA) began to provision public Wi-Fi zones in squares, parks and thoroughfares (Fernández, 2020) , going from 35 internet-connected parks in July of 2015 to 830 by the end of 2018 (Hoffman, 2019), with access purchased through internet cards.

From 2017, it became possible to purchase internet access for any home with a fixed line telephone and by 2019 roughly seven million Cubans (around 57% of the population) were accessing the internet through this route. Then, from December of 2018, ETECSA began to offer 3G mobile data (offering coverage in 85% of the country), with 4G available from October of 2021 (although with lower coverage of 22%) (Fernández, 2020). According to ETECSA, 1.5 million Cubans now access their Nauta email account through their mobile telephones, with 1.7 million holding permanent internet accounts. Although Cuban rates of connectivity remained low by international standards, this progress was speedy and significant. National statistics for 2021 report that 68% of Cubans now use the internet, a sharp rise from 40% in 2016 (ONS, 2022), and the Minister for Communications, Jorge Luis Perdomo Di-Iella, speaking on the Mesa Redonda programme on 21st February 2020, noted that:

At the end of 2019, more than 6.5 million Cubans were accessing the internet through different routes: mobile data, Wi-Fi zones, home internet, or connections provided at their place of work or study.

These challenges notwithstanding, on the basis of a diagnostic assessment of the technology available and taking into account the elements of the *Modelo de Educación a Distancia de la Educación Superior Cubana* (Distance Education

Model for Cuban Higher Education) (Centro Nacional de Educación a Distancia, no date), a range of IT tools are available within the university to ensure adequate management both of the educational content and of student learning.

Methodology

The Sample

In the 2020-21 academic year, there were 8,926 students at the University of Granma, and 8,312 (93.1%) of these are included in this study. This reflects the fact that the data was initially gathered for the principal purpose of informing decisions about practice, with their research value an additional benefit.

Purposive selection criteria specified students across the range of degree courses that moved from full-time and blended approaches to distance learning during the pandemic.

The University of Granma's undergraduate offer comprises 34 degree programmes and 10 higher education short courses across its different modes of study. The degree programmes make up 96.7% of the study body (8,628 students) over six faculties, ten municipal university centres and one municipal university subsidiary.

Of the degree courses: 28 are delivered full time, face-to-face, to 3,065 students (35.5%); 26 are delivered through blended learning to 5,247 students (60.8%); and six through distance learning to 316 students (3.7%). The ten short courses are in the fields of pedagogical sciences (8), sports science (1) and technical sciences (1). They have a combined enrolment of 298 students. Nine programmes are delivered face-to-face, accounting for 279 (93.6%) of the students. The remaining 19 students (6.4%) are taking a course in 'network

logistics and hydraulic installation’, which is delivered through blended learning.

Theoretical methods used:

Evidence-based local interventions in all areas of Cuban community action begin with a process of diagnostic assessment, which yield a detailed description of the population, area or phenomenon studied (Brizuela et al., 2015) and are assessed using standard theoretical and analytical methods.

Analytic-synthetic: Used throughout the research in the analysis of all sources consulted to synthesise data, establish generalisations and draw conclusions.

Systemic-structural-functional: Used in the elaboration of the instructional model for comprehensive distance education, that is, in the creation of educational strategies to counteract the impact of COVID-19 on the education of Cuban university students.

Empirical methods used:

Student questionnaire: Direct, standardised, mixed closed and open questions to obtain personal and sociodemographic data (age, gender, civil status, course, year, specialism), and their assessment of distance learning and the impact of educational strategies undertaken by the university.

Interviews: Individual structured interviews with teachers, heads of municipal university centres, undergraduate teaching methodology leads and local social actors. Here, a social actor in a locality is anyone that has a formative or educative influence on students at any level within a particular sociocultural context (family-school-community). Examples include: local leaders of mass organisations, such as the Federation of Cuban Women (FMC) and the block-level Committees for the Defence of the Revolution (CDR); local council

presidents and delegates; leaders of the student and veterans organisations; social workers and the heads of multi-agency community working groups; presidents of local cooperatives; and university lecturers. The interviews sought to gather testimony and evaluations in relation to the distance learning strategies implemented by the University of Granma in the different learning contexts.

Analytical methods used:

Descriptive and statistical techniques were used to process the data, which was then analysed in terms of the impact of COVID-19 in five contexts: teaching and learning, individual, family, community and university.

Findings

The following is a narrative description of the measures taken by the University of Granma, constructed from a synthesis of the statistical and interview data collected. It is followed by a summary of the principal impacts of COVID and the measures taken by the University of Granma on staff, students, their communities and the institution itself.

The decisions made by the University of Granma with regard to how students on face-to-face and blended programmes would continue/complete their programmes were made in accordance with Rectorial Resolution 3/2020. Measures were taken in all areas, within existing academic regulations, to bring the 2019-20 academic year to a swift conclusion.

Once students had been made aware of the new circumstances under which the 2019-2020 academic year would be completed and the 2020-2021 academic year begun, data collection began for a diagnostic assessment of the technological resources available. This was done in order to provide a base from which to offer personalised support to students in the direction and self-direction of their learning.

All courses across the different modes of study began the 2020-2021 academic year with a face-to-face orientation at which students were provided with digital files to continue their studies through distance learning, with the exception of students forming part of that year's new intake. Rather than running various modules simultaneously, teaching and learning was organised 'by blocks', dividing the different subjects into groups (with each group of subjects forming a block) and planning the delivery of those subjects, their face-to-face sessions and their periods of final examination and then moving on to the next block.

Results of the diagnostic assessment of technological resources, organised by mode of study and course type

On degree courses, among full time (previously face-to-face) students, 88.2% had access to the technology necessary for independent study. This was based on the standard of that individual having some way of accessing university platforms via the internet. This could be on a computer, tablet or telephone, which might, on occasion, be shared with another family member. There were 201 students with no access to technology.

Among part-time (previously blended learning) students, 75.4% had access to the technology necessary for independent study; there were 1,251 students with no access to technology. Of students studying at the main university campus, 85.3% had the necessary technology, leaving 282 without. In the municipal university centres, only 69.3% had the technology they needed, leaving 961 without. This is significant because the municipal university centres are widening participation institutions, with a typically less socially and economically advantaged student body (Tejuca, 2015).

On short courses, among full time (previously face-to-face) students, 86.2% had the necessary technology for independent study, meaning that 33 students

did not, while 100% of part-time, (previously blended learning) students had access to the necessary technology.

The 1,508 students without the necessary technology represented 17.2% of the total enrolled at the university. Of that number, 539 (35.7%) studied at the main campus and 961 (63.7%) in the municipalities. Students who had previously done part-time, blended learning were most likely to fall into this group, making up 82.9% of the total, at 1,251 students.

Three degree courses offered by the university were regional, meaning that their students came from a total of 26 municipalities in five provinces (Camagüey, Las Tunas, Holguín, Santiago de Cuba and Guantánamo). All three were within agricultural sciences (veterinary medicine, agricultural engineering and forestry engineering). Unlike for the students on other courses, no face-to-face activities were scheduled for these students. All communication was conducted through distance learning, using Moodle and other platforms for digital interaction, which were created in every university community that academic year.

Actions taken

Distance learning took on a relevance it had never before achieved. The fact that this mode of study does not allow teachers and students to be present in the same space (Mancera, Hernández and Barrios, 2020) required the implementation of various measures proposed by Backhoff (2021) to ensure continuity of study: training in distance learning pedagogies; adaptation of assessment processes; support for teachers, managers and students; and specific attention for vulnerable groups.

To avoid propagating the virus, UDG communicated via the mass media (radio, television and printed press), as well as virtual platforms. Television is a particularly useful medium in this regard because (unlike internet access) almost

every home in Cuba has a television (Almeyda et al., 2021) and educational programming at school level and for adult self-improvement through the Universidad para Todos (University for All) was already well-established through Canal Educativo (Education Channel). It also implemented strategies to ensure that students could access its sites and virtual platforms, no matter where the university campuses, student residences or teachers' homes were located. The Cuban government already offered free internet access on all university campuses and the COVID-19 pandemic led to an increase in the use of educational platforms that allow access to university web pages, university emails and downloadable resources for each degree course and year group.

Access to these resources was made free of charge via mobile data for students and teachers (far more feasible in Cuba than elsewhere because of its single, state provider), allowing the implementation of distance learning. These free services allowed all students internet access to the university sites, WhatsApp and Telegram, which had previously been prohibitively expensive for many. Free internet access to these sites was made available at workstations or devices connected to Nautohogar (Cuba's home internet service), devices connected via ETECSA's public Wi-Fi hotspots (generally in each town's main square), and through mobile devices connected to mobile data services (3G or LTE), including where the user had not purchased a data package. As well as direct communication between the university and its students, Almeyda et al (2021) note that this new access enabled students and staff to spontaneously create support networks.

Alternative strategies were required in 'silent zones': areas without electricity supply or internet coverage. In these areas, solar panels are used to power a computer, television and video recorder. These 'zones of silence' are located in remote rural and mountainous areas, of which Granma has many, which are

isolated from the towns and cities, and where the students require alternative provision. In these instances, CD ROMs of the course materials were delivered, along with printed guides.

The change from face-to-face and blended learning to distance learning meant revising academic calendars and timetables, adjusting the curriculum, rolling out methodological training for teaching staff, and preparing and uploading digital files. The University of Granma's IT department also had to create the different sites and platforms needed to access the digital files for each degree, year and subject, and to communicate with students and assess their work. Some forms of assessment were adjusted and adapted for the new mode of study, while others were replaced by alternative assessments. Combined, these allowed learning to be tested and students to progress to the next level on the basis of their independent study.

Teaching staff responded rapidly to the new demands of distance learning, for which they initially lacked knowledge and training, through participation in training activities that allowed systematic adaptation to online education. These teachers' work was initially carried out with no or negligible technological resources and using platforms and educational strategies with which neither the teachers nor the students were familiar.

Distance learning also meant a significant increase in the time that teachers had to spend preparing their classes, securing an internet connection and monitoring student learning, all in addition to caring for their health, given that the confinement implied by living under social distancing for long periods made it difficult for either students or teachers to study and rest appropriately.

Lockdown conditions and the lack of opportunity to learn at home or in hospital, where students who were pregnant or infected with COVID-19 were isolated, weakened their link to education, which was a constant source of

concern for teachers, who wanted to avoid their students dropping out or failing to catch up on their studies after regaining their health. They were also concerned with supporting the families of teachers or students who had died, become ill, or who were forced to isolate.

Within the guidelines set out in Ministerial Resolution 3/2021 for setting up and implementing undergraduate academic activity in the context of the pandemic, it was individual faculties and municipal university centres, as those with the most direct knowledge of the students in the context of their local communities, that began to gather the necessary data and to take action locally. These local circumstances were frequently very challenging. On top of the sanctions imposed on Cuba by the US government, COVID-19 necessitated the adoption of a set of restrictions and social distancing requirements. This not only affected the Cuban population directly but also in terms of the importation of resources, including food and medicines. National and international flights were suspended, along with shipping and, significantly for the Cuban economy, tourism. All of these factors created a tense and challenging economic context, with direct implications for the quality of daily life and the support required by vulnerable members of the population.

Given the nature of the illness, and the challenging context, brigades of young people were organised to do socially useful work, led by the Provincial and Municipal Defence Councils, which already had community actors in place because of their existing role in disaster preparedness (Lizarralde et al. 2015). Municipal and Provincial Defence Councils involved students in various tasks in the fight against COVID, responding to the nature of the illness, the need to address the difficult economic circumstances according to local circumstances and the professional profile of the student body. These tasks included social work, energy conservation, food production, care of quarantined travellers,

disseminating the #QuédateEnCasa (stay at home) campaign through social media during lockdowns and sharing information about the pandemic. All of this work is founded in the close relationship between government, university and society, in the particular characteristics of the locality and in the professional profile of the student body (Ortiz et al., 2020).

This is not the first time that young people in Cuba have come together in response to a crisis facing the country. From their involvement in the 1961 literacy campaign (Pérez Cruz, 2010) and the 1970 *zafra* (sugar harvest) (Nodal et al., 2013), and through consistent engagement with agricultural and social projects, including the Manuel Ascunce young teacher detachments of the 1970-80s (Molina, 2010) and the emergent teacher and social worker programmes of the 2000s (Smith, 2016), they have consistently been mobilised to address local and national crises.

One response to the circumstances arising from the COVID pandemic was the constitution of brigades or contingents to aid in the resolution of social and economic problems. Some young people, by reason of the roles in the FEU (Federation of University Students) or the UJC (Young Communists), faced particular challenges and fulfilled significant duties as part of the battle against the virus. These duties included assisting medical personnel with their preventative/diagnostic house-to-house visits; assisting at commercial centres; working for the Sistema de Atención a la Familia (SAF), which ensures access to basic foodstuffs for families on low incomes; supporting scientific work; attending isolation centres, hospitals, surgeries and organising hospital admissions; carrying out and processing survey data; and, in the second phase, identifying those eligible for vaccinations and ensuring services for vulnerable families and older people living alone.

Key impacts

The changed circumstances brought consequences for the whole university community. Considering consequences as lessons learned from the pandemic, Vidal et al. (2021) argue that higher education institutions were not prepared to face a health crisis of this kind. Undoubtedly, educational institutions were forced to adapt to the new situation in order to ensure that millions of university students could continue their studies. The principal consequences gleaned from the study are summarised here.

1) Consequences for teaching and learning

- Vertiginous change from face-to-face and blended learning to distance learning.
- Creation and uploading of digital folders by topic for each subject, within each year of study, to enable independent learning (programmes, study guides and educational resources), under pressure and with little experience using distance learning tools.
- Preparation of digital versions of core and extended bibliography for sharing on virtual platforms.
- Change of teacher mentality to enable the new forms of organisation and assessment required for distance learning.
- Planning and organisation of teachers into blocks.
- Activation of virtual communities to organise information and learning, through the creation of social networks to facilitate communication between students, subject teachers, subject leads, year leads, and heads of department and faculty.
- Systematic planning for independent study and work to allow for integrated practical activities, in accordance with the needs and demands

of professional practice among the network of teaching units and local workplaces.

- Increased focus on research-based learning through projects to solve workplace issues, from a comprehensive perspective sustained through professional networks and collaborative learning.
- Designation of tutors with responsibility for up to five students each to ensure they had a systematic grounding in independent study skills.
- Adaptation of programmes and summative assessments to fit the didactic demands of distance learning and its organisation into blocks.

2) Consequences for individual students

- Confronting a new mode of study that demanded greater commitment, independence, creativity and independent learning in haphazard virtual environments.
- A lack of technology on which to save digital information (memory sticks, CDs, hard disks, memory cards, tablets and mobile phones).
- The use of printed information and CDs Roms in ‘silent zones’ in some rural and mountainous areas.
- Lack of technology through which to consult, create and send digital material to their teachers (tablets, mobile phones, computers, Wi-Fi networks, mobile data, email and Messenger).
- Development of skills in using ICT for their work through the use of digital folders for their subjects and managing their own distance learning.
- Availability of virtual communities and groups for convenient communication and connectivity between students and their teachers, allowing for assessment and self-assessment of learning, even in ‘silent zones’ separated by great distances.

- Increase in their domestic work, as they took on responsibilities such as doing their professional work from home, caring for relatives, and supervising their children's or siblings' learning in addition to their normal household labour.

3) Consequences for family life

- Worries about whether or not the academic year would continue and concerns about their professional training.
- Fear, doubt and uncertainty in the face of a lethal illness.
- Uncertain access to digital sites and VLEs in rural areas and for students with few resources.
- Worries about securing the technology needed to download, save and send the digital information for their various classes.
- Excessive household duties, as outlined above.
- The need to seek out strategies to complete the study tasks on the VLE to a high quality.

4) Consequences for the community

- Compliance with lockdown and social distancing, leading to reduced mobility.
- The use of face coverings and other hygiene measures to avoid infection.
- Fulfilment of outreach activities and responsibilities as part of the 'Victoria de Girón' contingents and the 'Youth for Life' brigades, with the participation of students from all degree courses and all 13 of the province's municipalities, to provide support for vulnerable families, engage in food production, distribution of medicines and basic groceries, and education and training on complying with hygiene and infection prevention. They also conducted virtual and house-to-house surveys, as

well as working in isolation centres and ‘red zones’ (hospitals with patients diagnosed with COVID-19).

- Participation in meetings of local community organisations to develop local policy and local development projects.

5) Consequences for the university

- Transformation of university culture.
- Moving between physical and virtual spaces for teaching and learning and developing new skills and competencies.
- Redesign of activities in relation to teaching, research, outreach and workplace practice.
- Use of university campuses as isolation centres, with the support of students, teachers and management working in ‘red zones’ and performing tasks relating to the care of patients sick with COVID-19.
- Securing literature and study guides in printed forms for students without access to technology.

Conclusion

Cuban universities, in response to the social problems caused by COVID-19, were compelled to put in place transformations, improvements and adjustments to their academic provision in order to develop distance teaching and learning across different types of courses.

The consequences outlined above demonstrate that Cuba universities, and specifically the University of Granma, were able successfully to adapt their provision for face-to-face and blended learners to distance learning in the unprecedented circumstances of COVID-19.

Diagnostic research carried out across the university community allowed for the implementation of three modes of distance education – e-learning (online), m-learning (mobile learning) and b-learning (hybrid learning) – which together constituted an interesting experience in the development of teaching practice. In the short term, the actions taken by the academic structures of the Cuban university enabled students to use distance learning to continue their studies in the new circumstances caused by COVID-19. In the longer term, the accelerated technological and strategic changes precipitated by the pandemic have the potential to make a lasting difference to access to knowledge and flexibility of study, especially for more marginalised groups and those living in remote areas. These ongoing transformations, however, continue to take place in the context of a lethal pandemic and are further hampered by the associated economic pressures.

References

- Almeyda Vázquez, A., García Fonseca, T., Pacheco Gómez, A., García Contino, S., García Cabezas, A. & Otero Solís, D. (2021) ‘La educación en tiempos de pandemia. Impactos en la subjetividad de estudiantes cubanos en transición a la universidad’, *Revista Cubana de Alternativas en Psicología*, 9 (25).
- Backhoff Escudero, E. (2021). ‘Educación y covid-19: lecciones aprendidas’, *Nexos*, 27th January 2012 [online]. Accessed at <https://educacion.nexos.com.mx/educacion-y-covid-19-lecciones-aprendidas/>
- Brizuela Castillo, Z., Sáez Palmero, A. & Jústiz Guerra, M. ‘Metodología para la Educación Comunitaria’, *Humanidades Médicas*, 15 (1), pp.107-127.
- Centro Nacional de Educación a Distancia (no date). *Modelo de Educación a Distancia de la Educación Superior Cubana* [online]. Accessed at https://aulacened.uci.cu/pluginfile.php/13407/mod_page/content/7/Modelo%20de%20Educaci%C3%B3n%20a%20Distancia%20de%20la%20Educaci%C3%B3n%20Superior%20Cubana_CENED%202016.pdf

- Collins, Lauren B.S. (2018) *The dense web: local governance and popular participation in Revolutionary Cuba*. PhD thesis, University of Nottingham [online].
- Conde Sánchez, L. (2021). La Universidad cubana está en la sociedad. *Granma*. Accessed at <http://www.granma.cu/cuba-covid-19/2021-03-28/la-universidad-cubana-esta-en-la-sociedad-28-03-2021-21-03-18>
- Fernández Garrido, J. (2020). ‘El uso de Internet y las redes sociales en la realidad contemporánea cubana’, *Revista de Psicología da UNESP*, 19 (2).
- Giannini, S. (2020). ‘Covid-19 y educación superior: De los efectos inmediatos al día después’, *Revista Latinoamericana de Educación Comparada: RELEC*, 11 (17), pp.1-57.
- Galbán García, E. & Más Bermejo, P. (2020). ‘COVID-19 in Cuba: Assessing the National Response’. *MEDICC Review* [online]. 22, (4). <https://doi.org/10.37757/MR2020.V22.N4.5>.
- Gamboa Suárez, D., Guerra Domínguez, E., Pérez Marín, D., Santana Saborit, J., Martínez-Regalado, O. (2022). ‘Caracterización clínica y epidemiológica de pacientes confirmados con COVID-19’, *MULTIMED* 26 (1) [online]. Accessed at <http://www.revmultimed.sld.cu/index.php/mtm/article/view/2434>
- González Vázquez, R. y Cela Noriega, K. (s. a). *Experiencias en la Virtualización del Proceso Docente*. www.monografias.com
- Hernández Gutiérrez, Dimas y Benítez Cárdenas, Francisco (eds.) (2006). *La Nueva Universidad Cubana y su Contribución a la Universalización del Conocimiento*. Havana: Félix Varela.
- Hoffmann, B. (2019). ‘¿Una nueva Cuba en gestación? Política y sociedad en la era post-Castro’, *Anuario Internacional CIDOB 2019 - Nueva época. Perfil de país: Cuba* (pp. 242-249). Barcelona: CIDOB ediciones. <https://nbnresolving.org/urn:nbn:de:0168-ssoar-65779-8>
- Jiménez Guerra, Y. y Ruiz González, M. (2021). ‘Reflexiones sobre los desafíos que enfrenta la educación superior en tiempos de COVID-19’, *Economía y Desarrollo*, 165 (1).
- Kirk, E. (2017) ‘Alternatives—Dealing with the perfect storm: Cuban disaster management’, *Studies in Political Economy*, 98 (1), 93-103, DOI: [10.1080/07078552.2017.1297047](https://doi.org/10.1080/07078552.2017.1297047)
- Lizarralde, Valladares, A., Olivera, A., Bornstein, L., Gould, K., & Barenstein, J. D. (2015). ‘A systems approach to resilience in the built environment:

- the case of Cuba', *Disasters*, 39 (1), pp.76–95.
<https://doi.org/10.1111/disa.12109>
- Mancera Corcuera, C., Serna Hernández, L. y Barrios Belmonte, M. (2020). 'Pandemia: maestros, tecnología y desigualdad', *Nexos*, 29th April, 2020 [online]. Accessed at <https://educacion.nexos.com.mx/pandemia-maestros-tecnologia-y-desigualdad/>
- Molina, T de J., (2010). 'El papel del destacamento pedagógico Manuel Ascunce Doménech en el fortalecimiento ideológico de sus miembros y en la formación de las nuevas generaciones: la ética profesional pedagógica', *Revista Varela*, 10 (27) [online]. Accessed at <http://revistavarela.uclv.edu.cu/index.php/rv/article/view/767>
- Morris, E. & Kelman, I. (2020). 'Coronavirus response: why Cuba is such an interesting case', *The Conversation* [online]. Accessed at <https://theconversation.com/coronavirus-response-why-cuba-is-such-an-interesting-case-135749>
- Nodal Laugart, R.L., Rojas Baso, A. and Sosa Simoneau, I.M. (2013) 'Bosquejo histórico del desarrollo del movimiento estudiantil universitario en Cuba', *Pedagogía Universitaria*, 18(2).
- Núñez Jover, Jorge et al. (2017). 'Universities, Inclusive Development and Social Innovation: Does That Debate Matter in Cuba', in Brundenius, Claes et al. (eds.) *Universities, Inclusive Development and Social Innovation: An International Perspective*. Switzerland: Springer, pp125-146.
- ONE (Oficina Nacional de Estadísticas). (2016) *Anuario Estadística 2015 Holguín*. Accessed at http://www.one.cu/publicaciones/provincias_masinf/holguin.htm
- ONE (Oficina Nacional de Estadísticas). (2022) 'Tecnología de la información y las comunicaciones'. *Anuario Estadístico de Cuba 2021*. Accessed at http://www.onei.gob.cu/sites/default/files/17_tic_aec_c.pdf
- Ortiz Bosch, M. J., Hernández Milanés, A. M. y Alejandro Jiménez, S. N. (2020) 'El enfrentamiento a la Covid-19 desde la gestión de las tareas de impacto en la Universidad de Granma', *Revista Roca*, 16.
- Perera Robbio, A. (2021). 'La Universidad de La Habana camina entre el pueblo', *Granma*, 25th March 2021. Accessed at <http://www.granma.cu/cuba/2021-03-25/la-universidad-de-la-habana-camina-entre-el-pueblo-25-03-2021-23-03-45>

- Pérez-Cruz, C F de J. (2011). 'La Campanje Nacional de Alfabetización en Cuba', *Varona: Revista Científico-Metodológica*, 53, pp.10-23, [online]. Accessed at <https://www.redalyc.org/pdf/3606/360635575003.pdf>
- Pérez-López, E., Vázquez Atochero, A., y Cambero Rivero, S. (2021). 'Educación a distancia en tiempos de COVID-19: Análisis desde la perspectiva de los estudiantes universitarios'. *RIED: Revista Iberoamericana de Educación a Distancia*, 24(1), pp. 331-350. <http://dx.doi.org/10.5944/ried.24.1.27855> [online]. Accessed at <https://www.redalyc.org/journal/3314/331464460016/html/>
- Silva Correa, Y. (2020). 'Las universidades cubanas en el combate por el país', *Granma*, 18th March, 2020. Accessed at <http://www.granma.cu/cuba/2020-03-18/las-universidades-cubanas-en-el-combate-por-el-pais-18-03-2020-01-03-56>
- Smith, R. *Education, Citizenship and Cuban Identity*. New York: Palgrave MacMillan.
- Smith, R. (2019). "“Now we don't see the university as something distant. It's here in our hands”": Situated pedagogy in Cuban municipal universities', *Journal for Critical Education Policy Studies*, 17 (1), March-April 2019. <http://www.jceps.com/archives/5560>
- Tejuca Martínez, Mayra et al. 'El acceso a la educación superior cubana en el curso 2013-2014: Una mirada a la composición social territorial' in *Revista Cubana de Educación Superior*, no. 3. (Sept-Dec 2015), pp. 42-61.
- Vidal Ledo, M. J., González Longoria, M. de la C. B., y Armenteros Vera, I. (2021). 'Impacto de la COVID-19 en la Educación Superior', *Educación Médica Superior*, 35 (1) [online]. Accessed at <http://www.ems.sld.cu/index.php/ems/article/view/2851>

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