

# Questionnaire to Analyse COVID-19’s Impact on Physical Education in Catalonia



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## Introduction and purpose

COVID-19 is having a disruptive socioeconomic impact worldwide and it has altered normal functioning in many professional areas. The education sector is one of the most affected. Schools were closed, face-to-face teaching was replaced by online education and there was uncertainty in normal processes in the education system (Trujillo et al., 2020).

The aim of this study was to assess what has really happened in the context of Physical Education within Catalonia (Spain) during the COVID-19 pandemic.

## Method/Design

For that purpose, a questionnaire (table 1) was designed to analyse COVID’s impact in terms of changes in the curricular decisions. The methodological procedures followed ethical standards in sport and exercise science research (Harriss & Atkinson, 2015) and ethical for education (BERA, 2018).

The size of the sample consisted of 629 primary (n=309) or secondary (n=320) school teachers of physical education in Catalonia. All the participants were working teachers and were members of a professional association.

Validity: We used the Delphi method to determine the validity of our questionnaire (Sireci, 1998) in three sequential phases, following the recommendations of Skinner et al. (2015):

- Phase 1. We worked with a group of four experts, all qualified in physical education and with over 15 years of experience. These experts drew up a first version of the questionnaire. A pilot test of the questionnaire was carried out with 37 physical education teachers.
- Phase 2. Another two experts were incorporated into the initial group (n=6). The validity of the content was verified by calculating the percentage of positive agreement using “R” software (v.3.5.3). The percentage of positive agreement was 93.7% with a confidence interval (CI) of 95%, between 0.904 and 0.961.
- Phase 3. The questionnaire was subjected to a new panel of experts (n=10). Were asked about the suitability of the questionnaire items. Their answers had to be in Likert scale format (1 to 4). The content was validated for all items of the questionnaire (George and Trujillo 2018). In our case, the average value of the ten experts’ answers was 3.8±0.2.

Questionnaire				
Some preliminary questions about the workplace				
1. At what educational level do you work?				
Primary education		Secondary education		
2. What kind of school is it?				
Comprehensive (public)		Semi Private (State-subsidised)		
Changes introduced to your physical education programming as a result of COVID-19				
3. How many changes have you made to the Learning units?				
Few	Some	Many	Other answers	
4. How many changes have you made to the contents?				
Few	Some	Many	Other answers	
5. How many changes have you made to the objectives?				
Few	Some	Many	Other answers	
6. How many changes have you made to the teaching-learning activities?				
Few	Some	Many	Other answers	
7. How many changes have you made to attention to the diversity?				
Impossible	Few	Many	Other answers	
8. How many changes have you made to the communication with students?				
Few	Many	Other answers		

**Table 1.** List of the main items in the questionnaire “Barometer of Physical Education in the COVID-19 Pandemic”

Reliability: The alpha coefficient was calculated (Cronbach, 1951) to assess the suitability of the questionnaire’s items. This coefficient was applied to the group of questions corresponding to the main aim of the study (questions 3 to 8), and an alpha value of 0.737 was obtained. This was considered an acceptable criterion of reliability as it was above 0.70 (Cronbach, 1951).

## Results

A total of 629 teachers answered the questionnaire: 309 from primary education and 320 from secondary education.

Table 2 shows the results given by teachers on the changes in the task of physical education teachers in response to the COVID-19 pandemic in Catalonia (Spain). We can see a significant association between education level (primary and secondary) and the changes made in the teaching-learning activities (p = 0.002). There was a significant association between education level (primary and secondary) and changes in communication with students (p=0.001). No significant differences were observed in the changes introduced in the learning units, contents, objectives and attention to diversity in response to the pandemic. The differences found in the set of teaching-learning activities (p = .015) and the communication with students (p = 0.002) were only significant among teachers of public centres.

There were no significant associations in the case of teachers of state-subsidised private schools.

	n	Few %	Some %	Many %	Other %	Chi P value
How many changes have you made to the objectives?						
n.s.						
Primary	309	31.4	55.3	12.3	1.0	
Secondary	320	25.6	58.1	15.3	0.9	
Total	629	28.5	56.8	13.8	1.0	
How many changes have you made to the teaching-learning activities?						
0.002						
Primary	309	9.7	59.5	30.4	0.3	
Secondary	320	10.3	45.3	43.1	1.3	
Total	629	10.0	52.3	36.9	0.8	
How many changes have you made to the contents?						
n.s.						
Primary	309	19.4	64.1	15.2	1.3	
Secondary	320	19.1	59.1	20.9	0.9	
Total	629	19.2	61.5	18.1	1.1	
How many changes have you made to the learning units?						
n.s.						
Primary	309	18.1	47.6	31.1	3.2	
Secondary	320	16.6	45.6	34.7	3.1	
Total	629	17.3	46.6	32.9	3.2	
How many changes have you made to attention to the diversity?						
n.s.						
Primary	309	90.6	2.9	4.5	1.9	
Secondary	320	87.5	3.1	3.8	5.6	
Total	629	89.0	3.0	4.1	3.8	
How many changes have you made to the communication with students?						
0.001						
Primary	309		92.6	2.9	4.5	
Secondary	320		83.8	9.1	7.2	
Total	629		88.1	6.0	5.9	

**Table 2.** Changes in the teaching task of physical education teachers during the COVID-19 pandemic in Catalonia (Spain)

## Conclusions

In conclusion, the methodological changes that the pandemic has brought about are evident and envision a hybrid physical education model with more presence of technology.

This barometer implemented by physical education teachers, revealed the impact of COVID-19 on teaching–learning activities and the specification of curriculum contents.

Another significant change identified in the barometer is the increase in interaction and communication of primary school teachers with students through the use of technology. In this area, the methodological changes associated with teaching post-pandemic point towards a blended model of physical education with greater presence of technology.