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Exploring Perception of the Latest Covid-19 Official Educational Measures amongst Algerian Secondary School Teachers

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Abstract. Taking novel and less killing identities, Covid-19 has created havoc in education systems worldwide and Algeria was no exception. The Algerian authorities and education policymakers consequently found themselves obliged to take measures necessary to adapt schooling and learning environments to this health crisis. Hence, this study aimed to unravel secondary school teachers' perceptions of the adopted Covid-19 educational measures so as to 1) explore the changes they brought about into the learning environment and 2) investigate their effects on the learning process. To this end, an exploratory research was conducted, opting for a mixed-method approach using document analysis and a questionnaire to which 140 teachers responded. The findings reveal that the most significant changes in the learning environment were at the level of school setting, class size, instruction time, curricula volume and delivery mode ; all of which affected the learning process to varying degrees.

Keywords. Covid-19 pandemic, educational measures, teachers' perceptions, learning environment, learning process

1. Introduction : Background to the Study

Still alive in a state of metamorphosis taking novel, albeit less killing identities, as compared to the devastating power of the proto-virus at the early beginning of the calamity, Covid-19 has continuously been a major concern worldwide for its dire consequences that have struck people from all walks of life. The outbreak of the virus consequently brought life to a screeching halt as it had imposed months of global lockdown and total shutdown. To restore normal living and working conditions, alternative standards and adjustments to fit the unprecedented circumstances of the novel status quo were highly required.

Global education systems as well have not been immune of the disastrous pandemic, as schooling opportunities for many learners at all levels were largely restricted, affecting 1.6 billion children and youth in over 190 countries (United Nations, 2020). Many education systems, however, have demonstrated great resilience and managed to support learning continuity amidst the crisis: closing schools and postponing their re-opening had been an efficient mitigation measure and conducive to reducing the spread of the virus, and adopting distance learning had been an effective alternative to closed classrooms. However, those measures could not remain the best option in the long run; thus, "Back to School" plans had to

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be carefully reconsidered, albeit so challenging for education systems and educators all over the world.

Being no exception, the Algerian education system was not safe, too, as the panademic caused a complete school shutdown for more than seven months during its first year. Hence, the schooling of more than 08 million students at all educational levels across the country was interrupted as the school year 2019 – 2020 ended earlier and the school year 2020 – 2021 started later than usual. To end up this educational interruption, school reopening was more than necessary, yet still risky. By June 2020, "Safe School Comeback" plans were revealed by the Algerian Ministry of National Education (MoNE) in anticipation of the return to school. The plans involved the preventive measures and the educational arrangements that have been set up to adapt the teaching and learning environment to the unprecedented situation. Thereby, a set of adjustments and regulations have been brought about in the teaching and learning process including; mainly the establishment of a health protocol, the division of large classroom groups into smaller ones, reduction in instruction time, curating the curriculum and the adoption of "Blended Learning" as a new approach to learning in Algeria. The changes those measures have caused to the learning environment and the effects they have had on the learning process cannot be overlooked ; they, therefore, need to be reflected on, getting teachers' perceptions unravelled.

Teachers are at the forefront of the educational system; they are the hub of the learning process, being in direct and constant contact with the learning environment. As practitioners, they bear the responsibility of putting words into actions. Because of the aforementioned reasons, their voice is crucial to investigate educational contexts and explore learening loci. Accordingly, this study deliberately gives primacy to teachers' perceptions of the changes that occurred in the Algerian educational context and their effects on the learning environment. This research, thus, aims to investigate how teachers perceive the officially-adopted Covid-19 educational measures in an attempt to shed light on the changes that those measures have brought about in the Algerian learning environment, and examine if those measures worked in advantage of the learning process by investigating their effectiveness. Precisely, the study aims to answer the following two main research questions:

1) *What changes did the officially-adopted Covid-19 educational measures bring about into the learning environment?*

2) *Did the officially-adopted Covid-19 educational measures work in favour of the learning process?*

2. Literature Review

2.1 Worldwide Impact of Covid-19 Pandemic on Education

In March 2020, Covid-19 was declared a global pandemic by The World Health Organization (WHO). The UNESCO reported that the pandemic caused educational disruption and school closures for over 1.2 billion students (Giannini & Brandolino, 2020). As a result of the lockdowns and confinement imposed by governments to reduce the increasing transmission of the virus, educational systems worldwide were affected and students of all ages and educational levels were forced to stay at home, for schools had to cease their usual activity and close their doors. "March 2020 will forever be known in the education community as the month when almost all the world's schools shut their doors" (Winthrop, 2020, para.1, as cited in Jones & Kessler, 2020, para.2). While most school closures across the world were initially announced as temporary in March 2020, they were later extended to few more months as a mitigation measure to restrain the spread of the virus causing the interruption of school attendance for at least 1.5 billion students in 2020 and 2021 (Sequeira & Dacey, 2020). According to the 77th

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edition of the WHO's new outbreak report, 90 % of students and more than 150 million children and young adults around the world were affected by school suspensions (WHO, 2020). The Covid-19 disruption in the educational system was, hence, of a great impact that schools and related educational institutions had to cope with at the soonest time possible. As a result, education systems had to respond.

2.1.1 Main Worldwide Education Measures

Reshaping teaching and learning, and adapting the educational methodologies in such a way that does not affect the teaching and learning process negatively, during and after the emergency period, has been a major concern for many countries. It is estimated that most of them focused on implementing 'emergency remote teaching and learning modalities' that aimed to limit the immediate impact of school closure and reach out all students during the coping phase of Covid-19 (World Bank, 2020). Opting for an alternate instructional delivery mode using distance education tools with a potential return to former teaching format when the situation improved, was one of the main agreed-upon emergency solutions (Hodges et al., 2020, p. 9). The shift toward such an educational mode requires the intermediation of multimodal infrastructures which are defined as solutions using different technology media or channels to provide access to learning materials and that target different users including students, teachers and parents. These include varying technologies : T.V, radio, paper learning packages handed or emailed to students, digital resources on online platforms working with internet services. Such tools and resources have, therefore, become the resolution to support the continuation of education while schools remained closed.

2.1.2 Remote Education Implementation Challenges

The change from face-to-face to remote teaching and learning represented significant challenge for all educational actors in different educational levels as great adaptation and the development of new skills have been required to comply with the new educational process. When in-person learning was suspended and school closures were prolonged,

education systems attempted to adapt, shifting to remote forms. The alternative ways that have been put in place to continue schooling, while schools remained closed, varied in their effectiveness and the degrees of their success (Vincent-Lancrin et al., 2022). Although governments and some non-govermental organisations (NGOs) have worked to provide educational programmes on TV, radio and various other means, many students struggled to access the new adapted tools because of the limited access to digital devices and network connectivity among poorer households. In sum, the challenges of applying remote education modalities lay mostly in the rush to respond effectively, insufficient technological endowment, lack of adequate and trained personnel to develop such processes and adaptation technologies as well as socio-economic inequalities among students.

2.1.3 Precautious School Comeback

Education is a relational process; teaching and learning are not just a transactional service but a relational and social experience (Schleicher, 2020). The pandemic has limited the social dimension of learning, which cannot be fully reproduced through virtual means; technology can amplify good teaching but it doesn't replace core teaching. Thus, schools, and particularly classrooms, remain the best natural learning loci that facilitate social interactions amongst teachers and learners.

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Many countries finally decided to reopen their schools after consulting the educational staff and other stakeholders on the safety measures that would better protect all educational members. Abiding by governmental orders to resume school activity, local and national education boards were mobilized to actively participate in drafting the guidelines and the strategies to reopen schools. This risky move was conditioned by respecting the following parameters: ensure safety for all; plan for inclusive re-opening; listen to the voices of all concerned; and coordinate with key actors, including the health community (United Nations, 2020, p.19). To cut it short, getting students back to schools and learning institutions as safe as possible at the opportune time was a top priority for most countries once local transmission of Covid-19 was under control.

2.2 Algerian Pandemic-Oriented Education Measures

This section provides an examination of some of the main adopted educational measures at the secondary level based on evidence taken from Algerian official documents (e.g., ministerial decrees, mandates, official guides, timetables and official curricula) to foreground the main changes these measures have brought about to the learning environment, the school calendar and the time allocated for instruction, as well as the curricula, and to highlight the potential effects such changes could possibly have on the teaching and learning process. Henceforth, it implicitly attempts to answer the first raised research question (i.e., *What changes did the officially-adopted Covid-19 educational measures bring about into the learning environment?*

2.2.1 Applying a Sanitary Protocol to High Schools

In order to minimize the risks of the virus, prevent its spread in schools and ensure safety for all, a strict preventive health protocol against Covid-19 issued by the ministry of education and approved by the Scientific Committee (Decree n° 1284 issued July 11, 2020) had to be implemented in schools; promoting strict hygiene practices as an obligation that students, teachers and all the educational staff have had to adhere to. These practices included the use of masks and hand sanitizers, frequent hand washing as well as keeping a safe distance between learners, teachers and staff. Thus, adapting the school environment has been

indispensable to address the new requirements. Hand sanitizers have had to be provided and ready for use in every corner of the school, masks have had to be worn by all, disinfection has been required every day, the provision of hygiene tools have been mandatory, prevention signs have been put on walls to remind everyone to be cautious, and indication signs have been set up in the school yards, halls and classrooms to indicate to learners where to stand in a row, what direction to be taken for each group of students and designate each one' s seat in the classroom.

2.2.2 Class Size Reduction

Social-distancing measures imposed by the pandemic have had repercussions on class size which is an important determinant of teaching and learning outcomes. Thus, reducing class size has been an imperative measure to ensure the safety of learners, especially that Algerian classes are known to be overcrowded as many of them most of the time exceed 40 students. It was more than necessary to start operating in the cohort system; each cohort includes no more than 20 students which required the division of each class into groups and organizing them into shifts, following a strict seating plan.

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2.2.3 Instruction Time Decrease

Covid-19 crisis has affected total instruction time, which, according to Eurydice (2021), includes the time devoted to the instructional presentation of all curricular subjects, as well as the formal programmes' in- and out-of-school activities. Karsakas (2021) proclaims that many factors affect learning, but the time allocated to instruction plays a key role in the learning process, along with the instruction's quality and the time left for learning after school. In Algeria, since the delayed start off of the school year 2020-2021, instruction time has been gradually decresed to the minimum. The school calendar was diminished to two instead of three terms, schooling days were reduced by half the expexted time, the weekly subject hours were also decreased, and 15 minutes were cut from the normal session time.

2.2.4 Curriculum Reshaping Procedures

At the heart of the teaching and learning process lies the curriculum which is the guideline set out for educators that prescribes, and breaks down what needs to be taught, as well as ideas on how it should be presented to the students (Eurydice, 2021). Due to the changes that occur in our societies, curriculum has become a dynamic process. The school curricula are affected whenever developments or changes occur across the world; it is necessary to update them so as to address the needs of the society (Alvior, 2015). Hence, the curriculum needs to be adapted and developed in response to the changing circumstances so as to ensure the path for achieving educational goals.

Under the circumstances induced by the health emergency, the MoNE deemed necessary to adapt the curricula and make the necessary changes to meet the new requirements. Both the adopted teaching and learning procedures and the reduction in instruction time account for the adaptation of the curriculum, which required the omission, substitution, reordering and the integration of some lessons at each level and in each subject, in addition to introducing a new educational concept into the Algerian educational context that is "blended learning" which demands the combination of both; in-person and online teaching.

2.2.5 Blended Learning Modes

To recompense the reduced instructional time, broaden the spaces available for learning and provide greater opportunities for teachers' and learners' interaction and interactivity in light of the constraints imposed by the Covid-19 health protocol, the MoNE adopted a blended learning or mixed-mode learning.

By incorporating such a blended model of in-class and online learning into the Algerian educational context, schools and teachers have been required to change their long-used ways of instructing and interacting with students. Illustrating the introduction of blended learning to the English curriculum of secondary school, content is selectively divided into two : 1) what should be presented in class, and 2) what should be learnt at home, via handouts, and online, through social media, learning platforms and emails. As an answer to the first research question, the aforementioned discussion attempted to foreground a variety of changes that occured in schools and other educational institutions due to covid-19 official emergency measures. The forthcoming sections will highlight the adopted research methodology, the gleaned results, as well as their analytic discussion.

3. Research Methodology

Research methodology is the systematic design and a procedural demonstration of how a given study is carried out in order to ensure valid and reliable results that address the set out

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research aims and objectives. Henceforth, the participants, the adopted research approach, data collection methods and data analysis procedures will be the crux of the following print.

3.1 Research Context and Participants

This study targets Algerian secondary school education to get teachers' perceptions of the ministry's officially adopted covid-19 health emergency measures. To this end, a sample of 140 (*viz*. 100%) experienced and neophyte seconday school teachers working in different Algerian provinces and teaching diverse subjects were purposefully selected according to their higher rate of questionnaire's responses. As **Table 1** statictically shows, well nigh ¼ of the participants teach in the province of Tiaret ; the others albeit different in number work in the remaining 6 provinces ; the majority (n=96) is made of experienced and old-hand practitioners ; and teachers of English are the highest in number (n=45) with History-Geography and German as the least taught as compared to the other 6 subjects. These statistics would perhaps confirm the sample selection convenience to this study due to teachers' number and their diversity in years, types and loci of activity.

Table 1. ***Participants' Workplace, Teaching Subjects and Experience***

Participants' workplace							
Province	Tiaret	Algiers	Blida	Mascara	Chlef	Oran	Tessemssilet
Frequency	43	15	12	18	16	25	11
Percentage	30%	11%	9%	13%	11%	18%	8%

Participants' Teaching Subjects									
Subjects	Ar.	Ger	Sp.	Physics	Science	Maths	H & Geo	Eng.	Fr.
Frequency	14	9	8	12	10	14	8	45	20
Percentage	10 %	6%	6%	8%	7%	10%	6%	33%	14%

Participants' Teaching Experience			
Experience	0 -5 years	6 -10 years	More than 10 years
Frequency	44	65	31
Per centage	32%	46%	22%

3.2 Research Approach and Methods

To better explore teachers' perceptions of the pandemic schooling conditions and measures, the study at hand plunped for a mixed-method approach combining both qualitative and quantitative research methods to collect secondary and primary data by means of document analysis and a questionnaire, respectively.

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Considered as a secondary source of data collection, document analysis is the procedure of systematically reviewing or evaluating documents. In this research, ministerial mandates and decrees as well as other official documents (e.g., timetables, curricula, guides) regarding the measures that were applied during the Covid-19 health contingency, were analyzed (see **section 2.2** above for a complete account), so as to examine the changes these measures brought about into the learning environment, determine the scope of the study and provide a valid framework for the construction of the questionnaire.

Being the primary source for the collercted data, the opted-for questionnaire in its Arabic and English versions consists of 15 questions spread over four main sections depicting Covid-19 pandemic education conditions, and the officially-taken measures such as the application of a health protocol and a schooling cohort system, the reshape of the curriculum, and the adoption of online learning modalities. It is made of closed- and open-ended questions in order to quantitatively and qualitatively gather data and gain in-depth understanding of teachers' perceptions of the adopted Covid-19 educational measures.

3.3 Data Analysis Methods and Procedures

After being constucted on valid foundations due to official documents analysis, piloted by experts, the English version of the questionnaire was handed in person to some secondary school teachers of English whose loci of activity are in the province of Tiaret ; where as the Arabic copy was submitted online to reach out a great number of teachers of different subjects and from diverse provinces across Algeria. This online option ''*allowed us to record a relatively large number of responses, more than would have been possible by solving them face-to-face*'' (Boșcodeală, 2022, p.122).

Both quantitative and qualitative analysis methods are used, respectively, to statistically analyze the data gathered from the closed-ended questions' responses ; and interpret the ideas, views and experiences provided to answer the open-ended questions. The data analysis process is twofold: 1) the analysis of the data collected from official documents, which had already been detailed in the literature review above, and 2) the analysis of the data gathered from the questionnaire. Therefore, both content and statistical analysis techniques were carried out, together with the use of some tables for an effective data presentation.

4. Results

4.1 Schooling Conditions during Covid-19 Pandemic

Q1. During school closure, what measures have been taken to ensure learning continuity?

Table 2 displays that well nigh all teachers (94 %) claimed that no measure was taken to provide learning opportunities, the remaining 6 % reported that different materials were used to ensure learning continuity: handouts and printed materials (4%), online learning (1%), and TV and radio (1%).

Table 2. *Measures ensuring learning continuity during school closure*

Options	Online learning	TV & Radio	Handouts	Nothing	Total
Frequency	2	1	5	132	140
Percentage	1%	1%	4%	94%	100%

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Q2. Did school interruption affect students' cognitive skills? If yes, how was that ?

Table 3 shows that a striking majority of teachers (94%) confirmed that school interruption affected severely their students' cognitive skills. Most of them argued that their learners' level dropped, they had concentration problems, lost much of their prior knowledge and had difficulties to retain and grasp information. A lot of teachers also reported a lack of motivation, disinterest and disengagement with learning.

Table 3. *School Interruption and Students' Cognitive skills*

Options	Yes	No	Total
Frequency	132	8	140
Percentage	94%	6%	100%

Q4. Will that period affect students' academic performance for the years to come?

As **Table 4** indicates, most teachers' answers (93 %) were positive, admitting a prolonged effect of these new learning conditions on their students' future performance.

Table 4. *Covid-19 learning conditions and students' future performance*

Options	Yes	No	Total
Frequency	130	10	140
Percentage	93%	7%	100%

4.2 Schooking Safety Measures

Q5. Did the ministery provide you with all essential safety equipment and hygiene materials ?

Regarding the ministy's sanitary provision to ensure a safe learning environment, **Table 5** clarifies that although almost 30% of the surveyed teachers affirmed their reception of the necessary safety equipment, 61% showed a bit of disatisfaction and 11% denied receiving any provision.

Table 5. *Ministry' s safety supplies for schools*

Options	Yes	To some extent	No	Total
Frequency	40	85	15	140
Percentage	28%	61%	11%	100%

Q6. Have the applied preventive measures changed the learning environment? How?

Table 6 shows a variety of voices concerning the changes noticed in different learning environments : Nearly 1/10 of teachers denied any change in the learning environment. 28% of them noticed greater changes, yet 61% voiced that it was not much noticible.

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To demonstrate the noticed changes in the learning environment, the respondants further explained that working under strict safety protocol measures, with limitations in contact with their students and colleagues , getting a mixed feeling of fear and anxiety, and having a sense of awareness and responsability made the sum of the new unsual learning circumstances

Table 6. *Changes in the learning environment due to the preventive measures*

Options	Yes	To some extent	No	Total
Frequency	39	86	15	140
Percentage	28%	61%	11%	100%

Q7. Have cohorts of small-size classes changed students' behaviour ?If yes, how ?

As **Table 07** indicates, well nigh all teachers (93%) advocated that the adopted cohorrt system of smaller classes could change their students' behaviour. Most of them argued that their classes became more comfortable and suitable for learning, because students became less diruptive and more attentive.

Table 7. *Cohorts of small size classes and students' behaviour*

Options	Yes	No	Total
Frequency	130	10	140
Percentage	93%	7%	100%

Q8. How did cohorts of small-size classes affect teachers' tasks in the classroom ?

Responding to this open-ended question, teachers' answers were divided into two groups, pros and cons. The former claimed that the cohort system made their classroom management less difficult, as they had more opportunities to deal with their students' different needs, and to interact with them. The latter replied that this system complicated their task because of the additional load of work and full timetables they had due to teaching staff shortage as compared to the great amount of groups to teach.

4.3 Curricula Adaptation and Instruction Time Reduction

Q9. Have you received a training course on the implementation of the adapted curriculum ?

Astonishingly, **Table 8** demonstrates that 1/6 of the respodent teachers only were able able to get training opportunities to implement the adapted curriculum. It is so meager as compared to the remaining untrained 120 teachers.

Table 8. *Teachers' training to adapt the new curriculum*

Options	Yes	No	Total
Frequency	20	120	140
Percentage	14%	86%	100%

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Q10. Has the allocated instruction time been adequate to achieve the adapted curriculum learning objectives ? How ?

Table 9 shows that the majority (86%) confirmed the inadequacy of the new applied instruction time to achieve the stated curriculum learning objectives. Most teachers reported that the time available for instruction was insufficient to cover all learning objectives because in spite of adaptating the curriculum; it remained overloaded and needed reconsideration. More time in class to address all needs and achieve the targeted competencies was highly recommended.

Table 9. *Adequency of instruction time for learning objectives achievement*

Options	Yes	No	Total
Frequency	20	120	140
Percentage	14%	86%	100%

Q11. Has instruction time reduction affected students' learning outcomes ? How ?

Table 10. *Instruction time effect on students' outcomes*

Options	Yes	No	Total
Frequency	122	18	140
Percentage	87%	13%	100%

Table 10 shows that the majority (87%) affirmed that reducing instruction time influenced their students' achievements. Reporting a noticed decrease in their students' outcomes, most teachers argued that learners needed more time to grasp and process the information, as there was not enough class time for practice and consolidation. Some teachers said that the omission of remedial work as a result of the reduction in instruction time affected their learners' achievement.

4.4 Distance Learning and its Implementation obstacles

Q12. How can you evaluate your technological skills ?

Checking whether teachers possess the required technological skills to adopt the distance/online learning, **Table 11** demonstrates the following results : 21% of teachers have high technological skills, most of them (64%) have average skills and 15% of them with a low level.

Table11. *The level of teachers' technological skills*

Options	High	Average	Low	Total
Frequency	21	89	30	140
Percentage	21%	64%	15%	100%

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Q13. Have you received training courses on the implementation of distance learning?

Table 12 shows how meager is the number of teachers (n=15) who have not received training to effectively implement distance learning.

Table 12. *Teachers' training to apply distance learning*

Options	Yes	No	Total
Frequency	15	125	140
Percentage	14%	86%	100%

Q14. Was distance learning effective to compensate for the reduced instruction time ?

Table 13 indicates that almost 90% of the surveyed teachers confirmed the ineffectiveness of didtance learning as an alternative strategy to gain enough instruction time to catch up with the missed lessons.

Table 13. *Distance learning to compensate for the reduced instruction time*

Options	Yes	No	Total
Frequency	19	121	140
Percentage	11%	89%	100%

Q15. What other obstacles can be faced when teaching and learning online?

Most teachers argued that there were various barriers that hamper an effective implementation of distance learning; chief amongst them, internet with poor network, or worse, internet unavailability, and meagre use of autonomous learning. Students coming from poor families cannot in most cases afford such technological means, and learners living in rural areas are rarely cabled. Students are not autonomous enough to study on their own; they often depend on teachers without showing much commitment to work independently.

5. Discussion

As a follow up to the previously provided answers to the first raised research question (**see section 2.2**), this section aims to answer the second one, scoping out the aforementioned questionnaire's results of teachers' perceptions of the official covid-19 education measures and their effectiveness in ensuring a safe normal learning environment.

To begin with, the results from the questionnaire proved the total shutdown of education during the first wave of the pandemic and the lack of enough learning continuity opportunities in Algerian schools. The findings also revealed that having a long run impact on students' performance, school interruption widened learning gaps in that most teachers reported a retreat in their students' levels, as most of them missed out the prerequisites required to acquire new knowledge, lost concentration and abilities to grasp and retain information, and lacked motivation and engagement. Accordingly, unlike many countries that demonstrated educational resiliency and leadership in ensuring learning continuity during the Covid-19 crisis, the Algerian educational system to a great extent proved to be incapable of meeting the challenge

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as it mostly failed to support learning continuity or provide learning opportunities while schools were closed.

The findings showed that teachers' perceptions varied in accodance with the officially adopted Covid-19 educational measure. Most teachers agreed upon, though relunctantly, and confirtmed the implementation of a health protocol in schools, voicing out that the implemented preventive measures have obliged them to work within an unfamiliar learning environment where the usual close contact between teachers, learners and other school members have been constrained ; and the natural social interaction, cultural and intellectual exchange limited. In spite of some teachers' sense of responsibility and awareness of the importance of such measures, others could not conceal their genuine fear and anxiety.

The majority of the surveyed teaching community also affirmed the negative impact of such 'new normal' schooling conditions on students' performance and achievement because of the restrictions on peer and group work, classroom interactions, and hands-on activities that are a vital requirement in the currently adopted teaching approach (The Competency- Based Approach). The increasing rate of absanteeism amongst teachers and students because of infection was revealed as another crucial reason for students' low achievement. Hence, these findings align with some studies on the effect of learning environment on students' performance, corroborating its significant role for raising their results ; and match up pevious research which confirms that unfamiliar school surroundings can damage students' learning abilities. These results have, thus, revealed that the change in the learning environment as a result of the implementation of the health protocol has not been in the advantage of the learning process

Applying the policy of cohorts of small-size classes was by and large revealed advantageous to promote the learning process as this convenient social-distancing measure fosterered learners' discipline and engagement and facilitated teacher activity. Small-size classes provide opportunities for less disruptive behaviour, preventing noise and boosting learners' discipline, attentiveness and comprehension which create a more encouraging and engaging learning environment. Regarding teachers' actions within small classes, most responses asserted that the decrease in the number of students facilitated classroom management, provided more opportunities to address their students' diverse needs. There was an agreement among most teachers that the grouping of students into small size classes has positively affected the learning process as it eradicated the obstacles they have long faced within the usual large classes and expressed the wish to adopt this measure as a long-term solution for the problem of crowdedness in schools. Conversely, few teachers reported that the split of normal whole classes into cohorts of smaller groups was not effective, because the meager number of teachers in comparison with the huge number of groups made fulfilling their duties so tiring and painstaking; they work twice the usual time, reiterate lessons and double-correct exams.

Regarding their perceptions of the reduced instruction time and the adapted curricula ; the findings showed that the surveyed teachers have been aware of the changes that occurred; however, the majority reported that they did not receive any training about their practical implementation. The findings also affirmed that instruction time plays a key role in the learning process and that its reduction has negatively affected teaching and learning because an increase in instruction time results in an increase in students' performance and vice versa. The results have, further, revealed that lessening instruction time hasn't been in the advantage of the learning process and was beneficial neither for learners nor for teachers. As for the curriculum which is central for the running of the learning process, the findings have disclosed that its

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adaptation hasn't been effective or functional as it didn't meet the needs that the exceptional situation required and it was neither matching the time available for instruction nor conducive to the attainment of the learning objectives.

Concerning the adoption of blended learning as a new approach in Algerian education, the findings disclosed that although its implementation would to a large extent change the teaching and learning modalities in Algeria, it has failed to serve the learning process for the many existing obstacles that obstructed its effective implementation and hindered the achievement of the target learning goals. These obstacles varied from the deficiency in the essential means and materials to the teachers' and learners' lack of the required skills and abilities. Hence, the findings go in accordance with the critics of blended learning and support their claim that such a learning mode requires certain abilities and skills from both teachers and learners to prove effective in addition to the availability of technological means and internet accessibility that are necessary for the application of such a delivery mode.

All in all. the findings of the survey claimed that the officially adopted Covid-19 educational measures were not likely to work in favour of the learning process, as the results have proved the effectiveness and positive effect of some and the negative impact and the inefficacy of other measures. The adopted measure that proved to be effective and had a positive impact on the learning process was the cohort system i.e. the transformation of the large-size classes to smaller ones. The measure that proved to be the least effective and has negatively influenced the learning process was the reduction of instruction time while the ineffectiveness of the adaptation of the curricula and the adoption of blended learning has been linked to some pre-existing issues and obstacles that hindered their efficacy.

6. Conclusion

The present research attempted to investigate the Algerian secondary school teachers'perceptions of the officially adopted Covid-19 educational measures and identify the changes that occurred in regard with the learning environment. The aim behind investigating teachers' perceptions and analyzing the changes was to discover whether the officially adopted measures worked in favour of the learning process or not. The investigation have proved that during the last two years, the learning process has been held within some unusual circumstances and exceptional conditions. Some changes have occurred in the learning environment including, mainly, the set up of the preventive measures that altered school practices and interactions, the decrease in class size, the reduction of instruction time, the curation of the curricula and the adoption of a new delivery mode. However, the effects of these changes varied from one measure to another.

The adopted measure that proved to work in the advantage of the learning process has been the division of students into cohorts of small-size classes, being conducive to improve learners' behaviour, facilitate teachers' task and create better learning environment. However, instruction time reduction turned out to have a negative impact on the learning process for its inconvenience to accomplish the learning objectives and achieve the target competencies, address learners' needs and cover the programme. Neither the adapted curricula nor the introduced blended learning mode proved their effectiveness due to the long-existing issues in the Algerian educational system in the first place such as weak infrastructures, overloaded curricula (content), lack of enough tecknological materials and efficient teacher training programmes, let alone dependence on traditional delivery modes.

To end it up, the Covid-19 period has tremendously marked national and international education. Thus, it has been important to document that period to serve as a lesson for the

challenges to come. Nevertheless, this study has neither been flawless nor inclusive to all possible aspects; which opens areas for further research and, thus, for more to learn.

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