



Anticipatory Governance in Developing Countries Toward a Bottom-Up Approach in Reforming the Education Sector: Egypt as a Case Study

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Abstract

This paper introduces anticipatory governance as a bottom-up approach for the educational sector's development in developing countries. Doing so, it contends that, unlike governments' top-down approaches in decision-making, the New Public Administration School suggests a mission-oriented and open-minded alternative for reconsidering policy-making toward improving service delivery to citizens. Relying on a qualitative research method based on the text analysis of documents addressing Egypt's e-learning policy during the COVID-19 pandemic, this study asserts that decentralization, the driving principle of anticipatory governance, is the most suitable alternative for overcoming structural and logistical deficiencies in the educational sector. Through the inclusion of stakeholders in designing policy options, the government would be able to foresee potential challenges and prevent their consequences based on the development of participatory and sustainable policies in response to public needs.

Keywords: *Anticipatory Governance, New Public Administration, Education, E-Learning, Top-Down Vs. Bottom-Up Reform Approaches, Egypt.*

Introduction

In 2020, the Covid-19 pandemic has hardly hit Egyptian institutions across various sectors, especially education. This came following the pandemic's impact on more than 1.6 billion children and young people who became out of schools in 161 countries at the time of a global educational crisis where students at school age were not receiving the basic skills they need in their professional life (UNICEF, 2021). Entailing more than third of students and teachers who do not have access to Internet, educational institutions were the mostly affected sectors by Covid 19 pandemic all over the world without exception, which prompted the search for alternative methods to traditional education. In this context, several initiatives came to transform a number of smart applications into distance learning platforms.

Having a huge and complex educational system dating back two centuries ago, the Egyptian education system has been traditionally conceived on the intensive absorption of students and indoctrination through direct communication between teachers and students. The Egyptian government's reaction to the pandemic has been manifested throughout two phases: the urgent response to the crisis and the management of epidemic's repercussions.

Being under the weight of a vague and uncertain situation, the government initiated a bi-monthly lock-down procedure that was renewed again and again due to the extended nature of the pandemic. The government divided students into small groups to prevent crowdedness and ensure social distancing

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alongside precautionary measures while applying the hybrid system combining direct and distance-learning education including the use of electronic applications, such as: Zoom, Google Classroom, and Edmodo.

Yet, different studies have criticized the government's measures in the educational sector during Covid-19 for being ineffective in providing the suitable medium for schools and universities' education through distant e-learning and hybrid systems. They contended that the government should have developed the appropriate infrastructure that would support the efficient functioning of electronic media in education. While the literature criticizing the government's measures in prevention of the outbreak of the pandemic at educational institutions has focused on the deficiencies of the educational sector, they overlooked the government's top-down approach of decision-making as the main reason behind this incapacity, which has marginalized effective bottom-up alternatives for change.

Relying on a qualitative research method based on the text analysis of public newspapers and sources addressing the pandemic's effect on the educational sector in Egypt and the government's preventive policies, this paper presents a suggestion inspired by the New Public Administration's school. Borrowing the concept of anticipatory government, this paper answers the following question: how would the government improve its educational policy during crisis? In answering this question, the study dwells on the New Public Administration's scholarship in detailing how the Egyptian government would be more efficient and effective in managing education during the pandemic crisis through the activation of the bottom-up concept of anticipatory government.

The study is structured as follows. The first section examines the government's reactive policies in education during pandemic and their negative repercussions on the smooth and efficient educational process. The second and third parts contrast the government's top-down approach versus the New Public Administration School's bottom-up approach while emphasizing the effectiveness of the anticipatory government. The fourth part elaborates on the study's suggestion by highlighting how the notion of anticipatory governance presents an effective alternative to the government's top-down approach in curbing the pandemic outbreak through efficient e-learning policies.

The government's reactive policies during the pandemic: A review of critical studies

The Egyptian government implemented a national plan for e-learning for schools and universities based on online teaching communications media, e-learning applications, secure educational platforms, and online testing. It was gradually applied throughout phases: the raise of readiness level while keeping schools open, the selective closure of schools, and national schools/universities' total closure (Elewa, 2020).

The first phase consisted of imposing and supporting preventive measures at schools, developing protocols for handling potential cases of infection, preparing the educational system's infrastructure and necessary human resources, and limiting physical contact by reducing social and extra-curricular activities. During this phase, the state took precautionary measures to limit the spread of the virus inside schools to ensure social distancing between students in queues, reconsidered attendance schedules for two, three, or four days, to reduce classes' density, and assigned a medical committee for each school to follow up preventive and precautionary measures. According to its website, the Ministry of Education distributed posters across schools to raise awareness, dispatched a doctor for each school to periodically monitor students' health, allocated areas within schools for sorting and temporary isolating suspected cases, and alerted schools to carefully disinfect equipment on a daily basis in addition to smartly organize students' exist between time intervals to avoid crowding.

The second phase of selective closure of schools encompassed the shuttering of schools in infected areas as a temporary measure while schools' total closure during the third phase ended up with students' isolation at home based on a total lock-down measure from January 2, 2021 until the end of the first semester. Being the peak

of the government's reactive measures, the option of schools and universities' closure was due to the fact that children and young people, by being potential carriers of the disease, may put their older family members at risk.

During the implementation of the third phase of measures, Egypt opted for distance learning as a way to reduce lost time in schools by creating more than 800,000 accounts for teachers and parents, mobilizing publishers to make textbooks and learning materials available in digital content for grades 1-10, broadcasting two educational programs on national tv channels, and adapting online educational platforms for use on smartphones (Ministry of Education's Website). While the three first grades of primary school have been exempted of exams, the teacher's guide has been uploaded on the Ministry's official website for guiding parents. For students from the fourth grade to the third preparatory school, the Ministry launched the educational channel of School 1, Zakir platform on the Egyptian Knowledge Bank's website, the live broadcast platform, and the Edmodo platform. Students at the secondary school had their support materials on the Egyptian Knowledge Bank's website, which included interactive digital content addressing the curricula, a live broadcasting platform, and Egypt Lessons platform. The Ministry created Egyptian Education Platform to clarify how to use educational platforms and provide a comprehensive guide to distance learning methods in addition to the digital library, which included digital scientific contents for all educational levels in multimedia formats and more than 80 dictionaries, glossaries, encyclopedic books, and multidisciplinary content on the Ministry of Education's YouTube channel (Ministry of Education's Website). In addition to the provision of multiple online learning resources, the Ministry initiated the electronic exam system for high school students, incorporated the hybrid education, combining distance education and face-to-face education, activated the electronic payment system for universities' services, and substituted video conferencing to face-to-face meetings. Students of transfer years were allowed to submit a research in academic subjects instead of passing exams while students at the final years of primary, preparatory, and secondary schools had their exams' schedule extended.

While schools and universities' closure has been a compulsive and preventive measure to avoid the spread of the pandemic among individuals during interaction, it has been heavily critiqued by scholars who underscored the government's shortcomings in providing effective alternatives to traditional learning. Studies underlined that, in spite of the inherent interactive nature of the educational process, the effective educational solutions seemed difficult, especially in developing countries that lacked technology in knowledge transfer (al-Dahshan, 2020; Ahmed, 2021; Elewa, 2020; ElSayed, 2020). They asserted that the impact of the virus on education has been devastating in countries where learning outcomes were low and school dropout rates were high. A prolonged closure had a disproportionately negative impact on students who had fewer opportunities to learn at home and whose time outside of school constituted an economic burden on their parents who would not afford long-term care, adequate food in the absence of school meals, or distance learning. Egypt, as a developing country, had numerous citizens with limited access to broadband internet or smartphones due to their low income.

Besides, scholars emphasized that Egyptian schools suffered from structural and technical problems before the pandemic outbreak, which underlined the inability to develop efficient e-learning policies in light of the poor funding, the weak infrastructure, the lack of equipment, and the limited number of skilled teachers, students, and administrators to deal with modern technology (Marei, 2020; Khalil, 2021). The lack of technical support processes and specialized technicians to help teachers, the absence of teachers with experience in digital transformation, and the use of appropriate methods for distance teaching have exacerbated the impact of ineffective e-learning policy, especially on disadvantaged families and students. The stagnation of Egypt's rigid education system impeded the smooth transition toward digital learning where the focus has always been on certificates and discipline more than skills. The curricula lacked the appropriate modern form for distance education since courses were still traditionally designed based on memorization and exams for assessment and lacked quality and elements of suspense, and some of them

transmitted the same traditional content without change. Parents expressed an excessive interest in stuffing young children's brains with as much as possible from textbooks to pour on the exam paper, which transformed the concept of education from developing perceptions and knowledge to developing the absorptive capacity of the brain to absorb the largest possible amount of information.

Studies showed a serious lack of scientific research skills at all levels of education and had recourse to distance education on an individual basis by occasionally relying on communication via (WhatsApp) while others resorted to Facebook, or individual educational channels (World Bank, 2021). In this vein, scholars underscored Egypt's weak information and communication technology infrastructure due to the fragility of its digital structure, the high cost of Internet service for low income levels, and the lack of the legal infrastructure in support for e-learning (AbdelHamid, 2021; Ahmed, 2021; Hamed, 2021). In line with this argument, they referred to the lack of awareness and of an integrated perception of distance education on all sides of the educational process where responsibility fell on all parties, families, students, teachers, and administrators. Distance education did not only require the ability and understanding of the teacher and students but rather an available structure, which includes powerful Internet servers, an informational and communication technology infrastructure and systems, including software and hardware, and secure networks and sites. The absence of this structure at Egyptian educational institutions meant the inability to suddenly switch to the distance learning system. Egyptian universities were not able to introduce distance education due to the weak preparation and training of educational staff for distance education.

These studies overlooked the fact that the hierarchical structure of Egypt's educational institutions did not help to achieve a real change in teaching and learning methods because of the top-down imposition of decisions, the academic and functional barriers between colleges and departments, and between faculty members and administrative staff. Yet, they mainly focused on the lack of modern telecommunication equipment and qualified human cadres to design and produce educational materials and to supervise the proper course of the educational process.

In light of structural and pedagogical shortcomings in the government's e-learning policy, scholarly writings' criticism has bypassed the government's top-down approach toward education during the pandemic as the main reason behind the aforementioned deficiencies. The government has imposed the e-learning policy without engaging with the educational community during the decision-making process. To reconsider these deficiencies, a bottom-up approach of decision-making within the public sector, especially public schools and universities' administration, is a potential pathway for change. The inclusion of citizens in the decision-making process and the use of technology became an integral part of an open-minded organizational culture according to the New Public Administration. The coming section, by contrasting the top-down to the bottom-up approach, suggests the New Public Administration's anticipatory government as a means for overcoming the centralized and hierarchical structure of Egypt's bureaucracy. It elaborates on how the decentralization of the decision-making process would offer further possibilities for improving teaching pedagogy and training, enriching knowledge, developing scientific, legal and civic skills, enhancing creativity, collaborative work, communicating and working in groups, and openness to the external environment.

Conceptual framework: Top-down versus bottom-up approaches

Public administration has emerged as an innovative tool of modernization at the beginning of the 19th century. It focused on the strict control of workers in the production process and their commitment to pre-determined tasks and goals in order to maximize production. Yet, the evolution of public administration has shifted the focus from workers' control to quality control under the auspices of the New Public Administration School where the decentralization of authority, horizontal structures of work organization and inclusive decision-making processes became predominant.

Traditional Public Administration

The traditional school's scientific methods have conceived the labor-management relations into hierarchical dynamics of domination and control over workers toward increasing work efficiency, productivity, and decreasing production costs. It turned managers-workers' interaction into a top-down process of production where workers were strictly controlled by a complicated chain of commands and confined to the fulfillment of standardized and individualized tasks based on predefined targets and subordinated to a systematic selection based on conditional skills. Frederick Taylor developed the scientific school for promoting work efficiency based on a top-down approach of authority over the production process and human attitude in order to enhance workers' productivity. By addressing human deficiencies through the standardization of tasks, the objectivation of workers' perception, and experiments, the traditional school restricted workers' flexibility and channels of expression by controlling their recourse to strikes and expression of contempt against repressive working conditions.

The increase of factories' size, machines' sophistication, and workers' numbers incited scholars of the traditional school to develop a complex managerial process based on hierarchical chains of authority that oversees production through commands and approvals (Nelson, 1974). The scientific method confined workers to managers' perspective of profit maximization by inscribing them to predetermined pathways of actions toward predesigned targets by qualified managers who would recruit only skilled workers (Locke, 1982; Littler, 1974). The division of labor between workers and managers where the former are supervised by managers through instructions and incentives, and the latter are responsible of selecting, training, and developing workers' skills has anchored workers' subordination to managers' authority (Littler, 1974). A systematic job analysis was introduced based on maximum fragmentation, the divorce of planning and doing, the separation between direct and indirect labor, and the decrease of material-based treatment (Littler, 1978). The conception of the science of work laid the foundations of the production cost calculation, which determined the required time and deserved incentive for each task based on a strict managerial supervision of performance and quality. Training and skills' development would be carried out by experienced managers as part of their responsibility to develop workers' skills and select the most qualified.

The traditional school has perpetuated managerial control over workers carrying out subordinated tasks. It conceived a standardized system of work, tools, and procedures as the most reliable medium to enhance workers' productivity, thanks to incentives for carrying out the assigned tasks, and reach the company's goals through the assignment of a difficult goal to a qualified employee (Locke, 1984; Thompson, 1919). The standardization of work labeled the principle of task control, underscored the managerial control over the labor process where workers were unable to determine their own tasks (Wrege & Perroni, 1974).

Managers' supervision and control of payments has implicitly referred to their monopoly of knowledge, which they passed over to workers throughout the hierarchical process of management. This top-down structure of management was mirrored by the principle of labor division so that each task would be carefully supervised and assessed by a specialized managerial department. This division prioritized individualized tasks by arguing that personal ambitions and goals would better motivate workers to perform at their best (Locke, 1984). Accordingly, money bonus was assigned as an incentive for workers who would carry out their duties in line with the predefined ways to achieve tasks toward reaching a high level of productivity (Locke, 1982 & Nadworny, 1957).

In spite of the traditional school's contribution to work management, it was conceived based on a managerial top-down perception of working conditions referred to as the natural soldiering, where workers, being a catalyst for the increase of work productivity, were considered idle, passive, and recipients of tasks defined by managers.

New Public Administration School

In reference to the public sector's outdated bureaucracy, production monopoly, and centralized decision-making process, Gaebler & Osborne (1992) called for the adoption of the private sector's entrepreneurial logic as an efficient managerial concept toward an administrative reform. Unlike the traditional school's perception of citizens as granted client, the entrepreneurial logic induced a behavioral shift in the public sector through the allocation of the least resources into the most beneficial and productive outcomes (Osborne, 1993; Gaebler & Osborne, 1992; DeLeon & Denhart, 2000). Osborne (1993) and Osborne & Gaebler (1992) inspired from the market system's diversified and competitive paradigm in conceiving the anticipatory government as an entrepreneurial logic where the government acts as a catalyst with a competitive, mission-driven, results-oriented, and customer-driven mentality that paved the way toward a decentralized and community-owned decision-making process.

In expression of the culminant point of New Public Administration, bureaucratic governments, instead of adopting a curative logic and fighting the existing problems, would rather follow a preventive approach in terms of forecasting and preventing potential challenges. By becoming an anticipatory apparatus, governments expanded the scope of their activities toward the anticipation of forthcoming crises. The need for anticipatory governments rose with the 'demassification' of societies where multiple actors with various claims and demands addressed decision-makers (DeLeon & Denhardt, 2000). Technological and social changes put pressure on governments to change their attitude in order to efficiently and effectively satisfy public needs. The public sector's standardized services and rigid structures disabled governments from foreseeing the future and developing appropriate decision-making mechanisms. The traditional school's curative and problem-solving mechanism diminished governments' productivity and degraded their performance by entrenching the public sector's dependency on changing environments and responsiveness toward emerging crises (Osborne, 1993; Gaebler & Osborne, 1992). By avoiding problems' negative repercussions rather than solving them, the anticipatory government underlined prevention as an institutional behavior that would substitute service provision with forecasting in order to prevent problems by expecting their occurrence. In this vein, citizens would collaborate in the formulation of future scenarios and visions toward the realization of public interest (DeLeon & Denhardt, 2000). Governments would involve citizens as primary stakeholders in the different stages of the decision-making process in terms of defining strategic tools, formulating goals, and carrying out assessment for outcomes. In this perspective, planning involved the determination of public institutions' current conditions, mission, goals, and the development of a successful vision, strategy, and schedule for achieving goals. Based on such strategic thinking, planning required stakeholders and employees' consensus in the definition of roles and positions within public organizations and the policy design within a decentralized and flexible decision-making mechanism (Osborne & Gaebler, 1992; Guston, 2014).

Yet, an anticipatory government's planning contradicted with an imperfect political environment where politicians opted for a reactive problem-solving approach in coping with environmental challenges (Osborne & Gaebler, 1992). By carrying out drastic measures to solve problems, politicians would promise fast solutions for short-term problems to increase their credibility. The state institutions were skeptical towards forecasting problems and opportunities because this approach would limit their benefits by prohibiting them from adopting harmful options to the nation's well-being. Also, bureaucrats refused to adopt an anticipatory behavior since it would lay off employees who lacked the professional skills to anticipate a future vision and determine the expected problems and opportunities while maintaining only professional agents for the development of curative policies to solve problems.

Anticipatory governance and the formulation of an inclusive e-learning policy

According to the concept of anticipatory governance, governments adopt a decision-making process based on the generalization of a decentralized mechanism in the different sectors toward budgeting, ac-

counting, and local governance (Osborne & Gaebler, 1992; DeLeon & Denhardt, 2000). An anticipatory government is a four-legged concept based on foresight, a networked system including foresight and the policy process, feedback, and an open-minded institutional culture (Fuerth, 2009). Foresight is the continuous effort of thinking about various possibilities based on knowledge and attunement to weak signals of forces that originated in the past, run into the present, and continues in the future. It includes the good knowledge of social biases and the connection between the different parts in forming the system. For such a system to exist, there must be a safe and protected area for expression where leaders are open to listen to everyone and are ready to interact with different private and public actors within the community. Being task-oriented, flexible, and in touch with a set of networks, an anticipatory government develops a feedback system to test the validity of the formulated assumptions, its streams knowledge, and detect early signs of failure by tracking performance before implementation. Such a government should be embedded within an open-minded culture driven by a curious mentality that is always willing to check alternative policies and encourage social networking across departments, actors, and disciplines.

The anticipatory behavior can be fostered through a generalized decentralization process across and within sectors and departments in budgeting, accounting, and local governance (Heo & Seo, 2021). For example, the adoption of accounting methods that oblige governments to maintain what they have already implemented and increase the time scope of the spending system enables governments to effectively count expenses (Osborne & Gaebler, 1992). In this way, better accounting standards are adopted to include missed operations, tax credits, deductions, loan subsidies, and the declining value of physical assets, reparation costs, depreciation, and public debt. These operations are intertwined in the budget since the absence of capital budgets inhibits governments from financing long term assets and incite them to borrow in order to buy a long term or short term value.

By establishing a long term budget instead of the traditional line-item system, the public sector will efficiently allocate financial resources in the most productive areas in line with the institution's future vision. Adopting a long term budget system based on reserve funds prevents money waste and enables managers to flexibly spend money in the right place by keeping 3 to 5 percent of revenues in reserve away from politicians' short-term spendings. The decentralization of the budget design gives each organization the right to develop its own budget, which is no longer arbitrarily determined by a central agency (Muidermann et al., 2022). Such structural make-over in the budget system helps the public sector to appropriately assign resources in prevention of expected problems. Being an alternative to the traditional line-item budget, the cross-departmental budgeting establishes financial interdependence between departments in decision-making where decisions in one department affect others'.

The development of local governance through decentralization and the delegation of the decision-making authority to lower administrative levels is a preliminary step toward empowering an anticipatory governance in the public sector. It consists of power disintegration through the appointment of multiple power centers on different administrative levels across geographic areas where small administrative units will have an authority in the management of their assigned areas (Osborne & Gaebler, 1992). The empowerment of local governors expands governments' authority since different administrative units would have a closer contact with citizens and would establish new dynamics in dealing with problems. A limited scale of action and local governors' proximity with citizens change the decision-making context and enable the adoption of the anticipatory behavior (Osborne, 1993). In addition, the creation of civic leadership coalitions would guide governments and political parties in a long-term agenda setting. Political parties can participate in the empowerment of the anticipatory government by anchoring a party discipline mechanism that votes for long-term policies designed to cope with expected problems (Osborne & Gaebler, 1992). An anticipatory democracy introduces new policy-making mechanisms within a renovated political system that copes with the different forms of social changes. By emphasizing performance measurement, shared goals, and visions,

the notion of anticipatory government would efficiently and effectively increase productivity within public institutions and adapt to clients' need and taste (Kim & Wolf, 1993).

In order to prevent deficiencies resulting from the top-down model of a unilateral decision-making, the government would adopt the anticipatory government's bottom-up approach through the decentralization of the decision-making process in the educational sector. The consideration of education stakeholders (teachers, students, parents, principals, educational organizations, donors, and administrative staff) within an inclusive approach of community participation saves time and resources in the long run by establishing the four components of an anticipatory government's system: foresight, networks of foresight and policy, feedback system, and open-minded culture. Foresight addresses the real needs of the community, networks of foresight and policy formulate sustainable policies, feedback system ensures accountability in service delivery, and an open-minded culture paves the way toward revising policies and shifting them toward better outcomes.

Instead of responding to crises upon their occurrence, foresight, based on an inclusive approach of stakeholders, equips decision-makers with the necessary streams of knowledge about the sector's basic needs (World Bank, 2021). It enables them to develop alternative options to follow in light of wide-ranged scenarios about actions to adopt during the expected crises to reduce their repercussions to a minimum. The Ministry of Education would engage with principals and teachers in addressing issues in the curricula, learning infrastructure, and educational systems of schools prior to imposing technology. Technology as the basis for the learning process used by teachers and students, requires management of access and exchange of knowledge throughout networks of virtual educational environments and learning management systems in order to ensure readiness to and equality of access for everyone. In order to increase teachers and students' readiness, they have to be engaged in the different phases of the decision-making process in order to get prepared for technology use as a complementary medium in the educational process for a specific activity or searching in databases through personal computers, web tools 0.2, digital photography, videos, mobile phones, wikis, and blogs (The Ministry of Education's Website).

The Ministry of Education would include networks of social and development actors in order to ensure the right of quality access and safe education for all. Coordination among decentralized networks in the formulation of strategies and guidelines for the implementation of alternatives and options during emergencies would improve the quality of teachers and students' training and ensure their readiness, ability to response, and access to safe and relevant learning opportunities.

By incorporating schools' administrators, parents, teachers, and students' representatives within each governorate in the development of plans for schools and universities' infrastructure and formulation of protocols for in-school checks, the government conceive networks of foresight and policy, which guarantees policies' successful outcome. By considering stakeholders' inputs, the government formulates a flexible budgeting system for local representatives of the Ministry of Education to allow schools and universities to suggest learning policies and develop their curricula in line with students' needs and families' socioeconomic profiles. An anticipatory government's bottom-up approach gives priority to students, teachers, and administrative staffs in conceiving alternative plans to adopt during eminent crises. Education officials and policy-makers would include representatives for each category of stakeholders in the design of learning models that can reach everyone during emergencies. Instead of exclusively relying on Internet-based strategies, which would only benefit better-off families, the government would include an extensive range of media and means for service delivery. In this perspective, distance learning would not be limited to the use of Internet only but would involves a variety of media that reach the largest number of students.

In addition to online tools for lesson plans, videos, tutorials, blogs, podcasts, and other resources that consume less data should also be considered. The Ministry would also incorporate user-fee-free policies

to facilitate the downloading of learning materials to smartphones without charges. Also, social networks can be used to enable the Ministry of Education to effectively communicate with parents and teachers to provide them guidelines and instructions of a learning process using content presented on radio or/and television (Ahmed, 2021). Stakeholders' participation is important to target students' lack of skills and ensure their engagement in the suggestion of alternative learning means toward a better quality of delivery.

The Ministry would easily address parents through widely accessed media, such as the radio, television and SMS, to provide them with tips and advices that will help them to provide a better support for students. Radio and television stations would support national educational goals by improving the quality of their programs while accommodating the great social responsibility entrusted to them. Parents would be more involved in the educational process of their children, and the Ministry of education would gain a clearer understanding of expected gaps and challenges in connectivity, equipment, integrating digital tools into curricula, and teacher readiness in using technology effectively, and would take the suitable actions in this regard.

The use of radio and television broadcasts and the expansion of what is called blended education, which combines the expansion of continuing education programs and lifelong learning through individual learning, became an institutional principle within which all forms of formal and informal education and learning are organized. The government would reactivate those channels, develop their programs to become highly polarized multimedia MOOCs or what is known as MOOCs lessons, and coordinate with the National Telecommunications Regulatory Authority to provide very low state-subsidized packages for the Internet for students according to academic enrollment letters (The Ministry of Education's Website). This perspective can be materialized through coordination with international bodies, donors, and businessmen to provide cheap personal computers in installments.

The inclusion of different stakeholders would enable the government to ensure accountability in delivery. The Ministry of Education would allow feedback from stakeholders to review and update its policies and procedures in adaptation to schools' latest developments in the means of communication, training programs, and specialized workshops on how to employ social networks in crisis management. The government would therefore narrow its focus on the existing deficiencies in teachers and principals' skills in designing training programs toward equipping them with the necessary practical, quick, and clear tools for action during crises as quickly with the least possible amount of losses. By identifying different actors and stakeholders with assigned tasks and designated responsibility, it would be easy for local policy-makers to spot areas of deficiencies and get back to the responsible agents. In this vein, proposals can be developed about effective teaching and learning, curricula, training, professional development, support, assessment of learning outcomes, the management and organization of human resources in the education sector, and supervision. This step would allow the Ministry to establish an inclusive chart about the standards for education readiness, response, recovery during crises with the participation of the community participation, coordinate actions and resources, and evaluate the outcomes (The Ministry of Education's Website).

The inclusive approach of anticipatory government would reduce boundaries across sectors and ensure the flexible coordination among them in order to guarantee teachers and students' access to safe and appropriate educational opportunities while highlighting links to other sectors such as health, water and sanitation, food and shelter to enhance stakeholders' security, safety, and physical livelihoods. By putting into practice bottom-up designed policies, the government would employ an interactive approach in testing and checking the effectiveness of decisions related to teaching and learning, curricula, teachers' training, professional development and support, teaching and learning processes, and learning outcomes. It would ensure the collective management and organization of human resources in the education sector, employees' working conditions, support, and supervision in order to make sure of their ability to adapt to the im-

plemented policies while being ready to introduce changes based on minimum standards of teachers and administrators' required and recognized competencies at the educational sector to cope with emergencies.

Conceived on an open-minded culture, an anticipatory government is future-oriented and capable of facing challenges, including disasters and crises. Hence, it is oriented toward increasing investments in the development of the infrastructure and technology of educational institutions, especially in rural and poor areas. By redefining the role of the teacher, the government transcends the concept of educational provision to quality provision, which is ensured through the development of the curricula, the organization of training courses for faculty members in schools and universities to work with distance education or hybrid education, develop their scientific skills, enhance their creativity, and capacity to work and communicate within groups. This open-minded and future-oriented culture would be concretized through the conclusion of agreements and partnerships with advanced universities to provide training and distance education, exchange experiences and information, develop and raise the scientific and practical level for members of the scientific body and graduates.

The government would develop a culture that supports e-learning through the proper identification of stakeholders' expectations, the instigation of motivation for learning, the good planning for the school day, the organization of educational programs, and improving multimedia equipment at schools and universities. Also, the government would ensure openness toward other countries' experiences in dealing with technology in order to re-evaluate our future visions and choices by launching electronic platforms that provide different educational experiences to students and teachers in an attempt to change national education's philosophy, goals, methods, and activities. For this aim, the government would convert smart applications into educational platforms and follow up with students' engagement and benefit from the content in line with the standards of the Ministry of Education. Schools and universities would gradually reconsider the exam system for evaluating students' performance by incorporating alternative means of assessment and teaching through the partial digitalization of the curricula via distance education and blended education (Ministry of Education's Website). Besides, the government would manifest an open-minded approach toward accrediting certificates for the graduates of distance and/or blended learning institutions and assuring the public that courses, programs, and certificates offered by the new types of distance education institutions comply with academic and professional specifications. This step forward requires the amendment and development of laws and regulations governing education in order to support the licensing of teaching curricula electronically in the distance education system.

It also requires the change of legal texts and regulations governing attendance requirement to allow entry to exams for the different courses, presentations and performances (video clips) as semester works or remote projects while reducing the percentage of grades allocated to exams. The government would introduce mandatory courses in schools and universities' curricula whose aim would be to develop personal learning skills, digital learning and professional education for students, teachers, administrators and parents. The government would expand distance education and information technology by enlarging the use of platforms through which lessons are provided, expanding the examination machine through the establishment of question banks, the use of automatic correction and electronic exams, and the connection of educational institutions, schools, and universities with a unified communications network linking corresponding institutions with networks.

Conclusion

Developing countries face numerous impediments toward the adoption of the anticipatory government's principle. In spite of efforts of liberalization, privatization, and deregulation of administrative activities to establish a market-based system based on competition and participation, financial problems and

budgetary deficiencies persist as strategic hurdles (UN Public Administration Network Report, 2003). Governments encourage private investment and offers administrative and fiscal facilities to non-governmental stakeholders, organizations, and foreign investors in order to carry out different development projects due to the public sector's inability to carry out large scale and complex projects. The private sector's involvement in the implementation of public projects became a template in third world countries' administrative behavior since governments were short of expertise and finances to sustain projects that the public sector cannot handle. Governments rely on the private sector as a substitute for public inefficiency and mediocre productivity rather than reforming the overall organizational structure since the public sector still holds its monopoly over service provision. Non-state agents and private actors are not considered as partners since they only conceal the government's deficient role in service provision. In spite of extensive waves of privatization within the public sector, governments are unable to cope with surrounding challenges through structural readjustments or the simplification of the outdated bureaucratic system.

Also, statism is anchored versus decentralization, which was not empowered through further delegation of authority to local governments. Besides, revenues are not allocated following technical and political criteria, which inhibits the reinforcement of an effective decentralization process. Governors remain powerless and citizens are not encouraged to participate in the decision-making process since local representatives are not elected but appointed by the president. Central governments strictly control local practices without holding governors and local deputies accountable in terms of resource allocation and policy implementation.

In light of the challenges faced during the pandemic, decentralization remains an essential requirement toward a behavioral shift in the public sector since it helps governors to develop anticipatory visions for their administrative units in line with citizens' expectations. Local governance should be reformed through a better process of resource allocation and power delegation following political and technical criteria in order to increase performance and encourage citizens to participate. Also, central governments have to develop a transparent accountability system towards local governors in order to assess their performance and ensure their progress. By holding governors responsible, citizens will be encouraged to take part in the decision-making process and cooperate with local public institutions in improving their living conditions. On the other hand, democracy is inevitably required for the development of an anticipatory government, since people are the source of power that incite rulers to reform policy-making mechanisms to cope with their needs. Once governors are elected and held accountable, they will do their best to abandon inefficient practices and shift their actions towards strategic thinking and planning. They will be able to anticipate future problems and opportunities and act as facilitators to achieve goals. Public institutions' recruitment system has to be modified in order to recruit employees based on merit and competencies in anticipating and creating a future vision for public institutions.

Besides, decentralization has to be implemented in public organizations so that they can operate based on a horizontal system of interaction instead of being keeping a hierarchical model in order to give workers room for innovation. Accordingly, each department will have its own budget and accounting system, which are designed by managers based on plans of resource allocation in the right fields of action to achieve the organization's future vision.

Anticipatory government is an important principle and practice that has to be endorsed by multiple measures in order to enable the readjustment of its operating mechanism to the existing challenges. Political pressures to conform with the global order exigencies require the alteration of the public behavior, life style, and expectations. Government have to develop their capacity to foresee obstacles and challenges related to socioeconomic changes, especially across third world countries. Governments need to enhance their productivity and service quality, change the nature of their functions, and differently perceive their

role. Although the public sector is visibly expanding in the provision of good quality services, not all citizens can rely on it to get their basic needs. Government have to benefit from the private sector's entrepreneurial logic, share roles, and develop a broad dynamic of action where both governments and private actors cooperate and compete in service provision.

A sustainable development cannot take place unless governments develop their operating system and enhance their employees' skills so they can adapt to the public sector's moderator role among multiple organizations and actors. Role sharing seems to be the best choice for governments to start abandoning their old functions and contracting-out services to private stakeholders, NGO, and/or foreign investors. Governments orchestrate interactions among these actors so that it would guarantee public welfare and consider the broad implications of public decisions.

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