



Need and Readiness for Transition to Digital Education in the Egyptian Countryside

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Abstract

This study uses a multi-dimensional analysis method that focuses on two main issues: the importance of transition and the willingness to implement it.

In the year According to the 2017 census, 58% of Egypt's rural population is in rural areas. In 2015, 77% of those aged 15 to 59 do not use computers or the Internet.

One indication of readiness for the digital transition is the introduction of digital education and testing in six governorates since 2014. Unfortunately, experience shows that many students do not accept the new method, in addition, the equipment often breaks down, and the Internet connection is not reliable.

Another indicator of poor preparedness emerged in May 2018, with a 44% repetition rate in tests conducted using computers or tablets in Egyptian high schools.

In conclusion, the transition to digital education in rural Egypt will require several years and a large and coordinated effort to achieve the desired goals.

Key Words: *Digital transition - Digital education - E-Learning - Education Technology - Egyptian countryside.*

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1. Introduction

Egypt is one of the most ancient mainsprings of human knowledge and civilization. Its people used to move in resilience from the past to the future holding self-identity via his educational system.

The new Egyptian constitution in 2014 includes two articles (19 and 20) specify a minimum public expenditure on education of 4% of GDP in total (2% on higher education), gradually rising over time.

As indicated in the report of the Organization of Economic Cooperation and Development (OECD) 2015, Egypt is at an important political turning point. It must manage this transition in a way that strengthens the cohesion of Egyptian society and enhances its ability to build a more competitive and sustainable economy. Effective education is key to solving both problems.

No doubt that technology transforms education, and the digital learning has completely changed the educational landscape. Today, digital literacy based on understanding and interacting with everyday Information and Communication Technology (ICT) tools is officially part of the core curriculum in many countries.

Introducing technology and e-learning systems in schools is a nationwide initiative led by Egypt's Ministry of Education. This digital transformation intends to provide students with the necessary tools for bridging the knowledge gap among students in various regions of Egypt.

In 1993, Ahmed Mansour studied the benefiting from educational technology in six rural schools that were established in villages of Talkha district. Three of them were primary and

three were middle schools. Anyhow, the limitation of the application scope was indicated. So, the results could not be generalized to the Egyptian rural schools (Mansour, 1993).

In 2007, the World Bank Group multi-donor program (infoDev) that supports entrepreneurs in developing economies, issued a report about ICT in Education in Egypt. The report outlined the factors that influence ICT adoption and mentioned one of its constraining features related to rural/urban division, stating that "Fewer numbers of schools and even fewer universities and higher institutions are available in rural communities, and there is a lack of infrastructure and facilities in rural areas. There is also a serious problem with the number of school dropouts especially in rural areas" (Hamdy, 2007: 15).

In 2012, Mohammad Al-Hammar tried to identify the most important advantages of using the tablet in general secondary education in Egypt, applying environmental analysis (SWOT). A set of proposals were reached that benefit in improving the applying of tablet use in general secondary schools in Egypt (Mohammad, 2012).

Though, in 2014 Hanan Elzeblawy Hassan, tackled the obstacles and challenges facing e-learning in the Arab world including Egypt (Hassan, 2014). Besides, she illustrated in 2017 the terms and concepts of E-Learning (Hassan, 2017).

Therefore, the current study aims to re-discuss the willingness and readiness to transition to digital education in rural Egypt, which is home to most students and has a lower level of services compared to urban areas.

The need for transition to digital education in Egyptian countryside may be looked from multi perspectives: its suitability for huge numbers of students and for dispersed schools in remote

localities, its anticipated benefits assured in similar experiences, and its more effective outcomes appreciated by educational scholars.

The readiness for transition to digital education in Egyptian countryside comes out from availability of connectivity hardware and software, high qualified human resources, and existence of clear and concrete roadmap to achieve the objective, either for the country overall, or for each individual school be converted to digital classrooms.

2. Theoretical Insights

Education experts such as Mike Buchanan, Rose Locken and Mr. Jones discuss the growing role of artificial intelligence in education, which should change the way we learn. They argue that the classroom of the future should be student-centered, and that digital education is about teaching the skills of the future. They believe that there is an inherent tension between a greater digital focus on Artificial Intelligence (AI) in education and concern for young people and the overuse of screens, with no fear that robotics educators will one day lead the classroom (Matthews, 2019).

The Organization for Economic Co-operation and Development reports that in most of the 29 OECD countries schools lag workplaces and homes in using ICT tools. One way or another, digital tools are becoming more popular in schools. In the year in 2012, more than nine out of ten 15-year-olds in Australia and Denmark used computers at school at least once a week (Avvisati, 2014).

Innovative and engaging digital learning environment in a classroom would be created via (Moore, & Kearsley, 2005; Salah El-Din, 2018):

- Getting an interactive whiteboard, usually with a projector for setting up lectures and presentations.
- Setting up a blog for the classroom that's student-run, and further working on a website all year long.
- Multimedia presentations with a tablet, Chromebook, or laptop to use Power point or Google Doc Slides.
- Smartphone video projects that enable students to edit and produce their work in a professional way.
- Creating a classroom podcast as a learning matter related to history, science, and language arts topics.
- Skype a speaker into the classroom to have alive and right connection with digital learning overseas.
- A field trip without leaving the classroom as a program for digital learning through virtual reality.

Many studies suggest that ICTs can contribute significantly to education, especially in terms of accessibility, as they allow learning anytime and anywhere. However, other studies show that the integration of ICT in education does not always lead to direct results. He pointed out that widening the access to technology in schools has different effects, it does not bring significant changes in the established teaching activities and/or the results of students and it can worsen existing inequalities. Sometimes the introduction of new technologies needs to be gradual for the best long-term results, especially as some traditional school structures may be inherently unsustainable. Another problem is that integrating tools with digital technologies is sometimes seen as a goal rather than a "vision" to achieve the desired results in educational systems. Therefore, the provision of technological methods is necessary, but it is not enough to ensure the improvement of the educational process. (Badran, et al, 2021).

Findings by Adeyinka D. Adewoyin, and Abosede M. Ebabhi, 2022, in their study concerning two randomly selected open and distance learning institutions in southwestern Nigeria show that students prefer online learning to help them manage their time over face-to-face learning. (Adewoyin & Ebabhi, 2022).

Unfortunately, experience with ICT use in schools has shown that simple access to ICT does not always lead to effective use of tools. Teachers often did not receive support to introduce new tools into practice. Decades of using information and communication technology in education have shown that providing students with access to digital devices and connecting all schools to the Internet is an easier, though more expensive. The key to improving student achievement is developing better learning materials, attracting better teachers to the profession, encouraging teachers to self-study and grow professionally, and measuring what students have learned. It's a coordinated strategy that involves improving the abilities, efforts, and resources to plan for the long term (Avvisati, 2014).

Benefits of digital technologies in the classroom could be addressed in the following (Cambridge, 2017): The ability to facilitate interactive and liberal practice among active students and empowered participants, the ability to enhance learning by complementing and linking learning activities, digital technologies are often providing a fun, more engaging alternative for users and encourage immediate feedback for students and teachers. In short, digital learning makes students smarter, more focused, and more responsible. Its tools and technology will help replace traditional teaching methods by facilitating faster, deeper

communication, making students more comfortable, tech-savvy, and handling all things digital naturally.

Challenges/criticisms of digital technologies in the classroom are that (Cambridge, 2017): Much time and resources are currently invested in technologies and applications that have not proven to be effective or efficient compared to traditional learning contexts. There is a “digital divide” between those who have access to digital technology and those who do not, resulting in costly delays in implementation, maintenance of technologies and systems that can quickly become obsolete, and existing infrastructure such as internet connectivity potential issues, security issues for students and teachers from working long hours on desktop computers. However, technology itself does not affect learning. Rather, its effectiveness depends on how it is used.

The Eurydice Network of the European Commission issued in 2019 a report on digital education in schools in Europe highlights two different but complementary perspectives on digital education: on the one hand, the development of useful digital competences for students and teachers, and on the other hand, the use of technology to support, improve and transform learning and teaching technology. Another one of the most important issues is ensuring the safety of students and teachers, both in terms of personal information and privacy, and in terms of health and safety. Some general topics relate to prevention of risks associated with prolonged/excessive use of digital technologies, including addiction, physical health, and the work environment (EACEA, 2019).

In general, schools located in countryside and outskirts of Egyptian cities differ significantly from those in the city center. There, the use of the law in controlling relations between

employees is reduced, and there is talk of assets, interest, and conscience prevailing. Since the schools are far and the roads leading to them are rugged and unpaved, the frequency of those responsible for supervision and follow-up is only to the small extent that allows workers to implement the agreed upon norms without fear of discovering any legal violations they commit (Fouad, 2107).

3. Methodology

The study adopts an analytical multi-dimensional approach, covering evolutionary aspects in transition steps, evaluating the present reality concerning education services in Egyptian countryside including the status of digital technology that may have been introduced, and discussing how to realize a proper transition to digital education in the rural Egypt. So, the study focuses on two main issues, namely the need for transition, and the readiness to implement it.

Data have been compiled from national and international literature, official statistic sources, and results of field observations. The researcher drew some findings from his observations and individual interviews during formal arranged visits to primary, preparatory, and secondary schools in Menoufia governorate to follow up educational training programs.

The study benefited some results of a field work conducted by the Ministry of Health and Population from February to May 2015, including quantitative data relating educational status of rural population in Egypt and their access and usage of computer, internet, and social media sites.

Maps and diagrams are suitable tools to clarify facts of findings and discussion.

The field work for the Survey of Health Aspects in Egypt 2015 conducted by the Ministry of Health and Population started in the second week of February 2015 and ended in the first week of May 2015. The researchers were divided into nine teams, each one of them was assigned to three from the 27 governorates of Egypt in the 2017 population census (Tab 1). A random sample was chosen for about 10% of the households. During the fieldwork period and the re-interview phase, 7,649 households out of a total of 7,813 households were identified for the health survey, and 7516 households were successfully interviewed, representing 98.3% of the respondents. Response exceeded 96% of households in all regions. The survey covered 3877 families in urban areas and 3639 families in the countryside. The latter were divided into 1763 families in North Egypt governorates, and 1774 families in South Egypt governorates (MOHP, et.al., 2015). This health survey report includes corresponding figures for the rural population with the highest level of education and average years of schooling. It also contains valuable data on computers, internet, and social media usage by rural populations. This is a worthy indicator of readiness for the transition to digital education.

Tab. 1 Rural population and school pupil numbers in the governorates of Egypt 2017

Governorates	Rural pop. In Census 2017 *	Rural % of total pop.2017	% of Egypt rural pop. 2017	Pupils in basic edu. 2017 cen.*	Students in Second. edu 2017/18 *
Total Egypt	54 558	58 %	100 %	25 498	1 475 244

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	420			546	
Total Urban gov	68 293	0.42	0.1 %	3 928 763 15.4 %	300 479 20.36 %
Cairo	-	0	-	2 373 062	181 872
Alexandria	68 293	1.3	0.1	1 229177	96 450
Port-Said	-	0	-	184130	12 791
Suez	-	0	-	185 394	9 366
Total Lower gov	29 548 686	72.2	54.2 %	11 440 978 44.67 %	654 652 44.37 %
Damietta	907 542		1.7	421 134	28 050
Dakahlia	4 656 592		8.5	1 874 259	110 869
Sharkia	5 422 698		9.9	2 049 642	108 699
Qalyoubia	3 224 929		5.9	1 588 313	98 384
Kafr-ESheikh	2 557 058		4.7	925 647	51 198
Gharbia	3 594 336		6.6	1 368 983	85 539
Menoufia	3 410 855		6.3	1 224 388	82 571
Behera	5 050 630		9.3	1 648 652	69 073
Ismailia	724 046		1.3	329 560	20 269
Total Upper gov	24 424 830	67.2	44.8 %	10 309 967 40.43 %	522 133 35.39 %
Giza	3 365 818		6.2	2 301 709	158 991
Beni-Suef	2 438 134		4.5	861 725	42 955
Fayoum	2 768 329		5.1	987 826	35 040
Menia	4 507 931		8.3	1 495 949	70 014

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Asyout	3 248 225		6.0	1 159 969	56 400
Suhag	3 913 109		7.2	1 309 256	54 180
Qena	2 569 795		4.7	839 176	41 259
Luxor	744 669		1.4	319 475	16 488
Aswan	868 820		1.6	383 065	19 135
Total	516 611	32.7	0.9 %	651 817	25 651
Frontier gov				2.5 %	1.7 %
Red Sea	12 516		0.0	319475	5 800
Elwadi	130 253		0.2	70501	5 288
Elgadid					
Matrouh	158 546		0.3	93246	4 116
North Sinai	167 217		0.3	137590	8 441
South Sinai	48 079		0.1	31005	2 006

CAPMAS, 2019

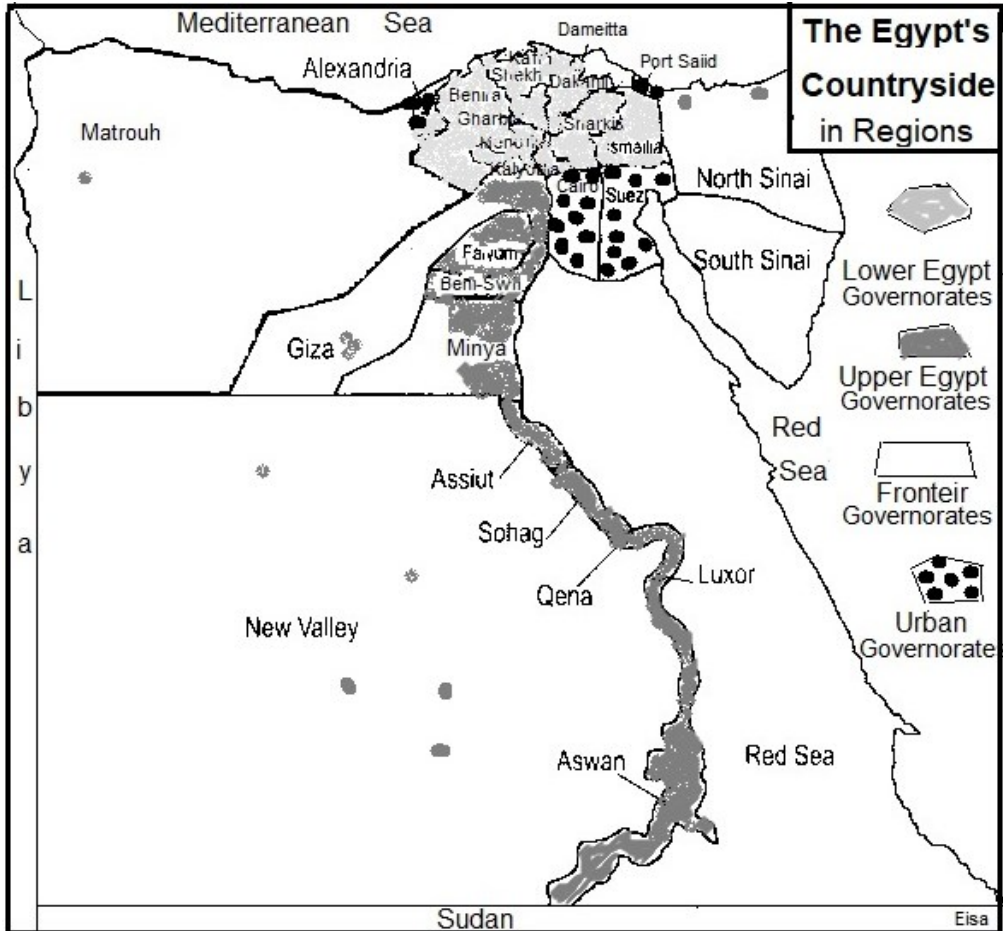
According to the World Bank's population and urban share calculations from the United Nations' World Urban Outlook, Egypt's rural population account for 57 percent by 2022 (knoema, 2022).

4. Findings

Egypt is the most populous Arab countries and one of the most populous countries in the world. The total area of the country is one million square kilometers. However, only 7.7 percent of Egypt's territory is inhabited, and most of the land is desert. Despite desert reclamation efforts, most Egyptians live in the Nile Delta in the north of the country (Lower Egypt) or in the narrow Nile Valley south of Cairo (Upper Egypt). Egypt is

administratively divided into 27 Governorates (Fig.1). Four urban Governorates (Cairo, Alexandria, Port Said and Suez) have no rural population. Each of the 23 Governorates is divided into urban and rural areas.

Rural population in Egypt, according to the results of the last general population census in 2017, were enumerated as 54 558 420 persons, equal to 58% the total population of Egypt (94 798 827). It is remarkable that 99% of rural population concentrate in eighteen governorates in Lower and Upper Egypt, while only 1% lives in some of the nine Egyptian urban and frontier governorates. The rural Egypt contains 4696 villages, from which 93.6% are located in Nile plains, Lower and Upper Egypt. The rural settlements in Egypt are the main source of school students, for example: about 85% of pupils in basic education, according to 2017 census, and 79.7% of students of secondary education in the year 2017/2018 live in rural localities.



By the author

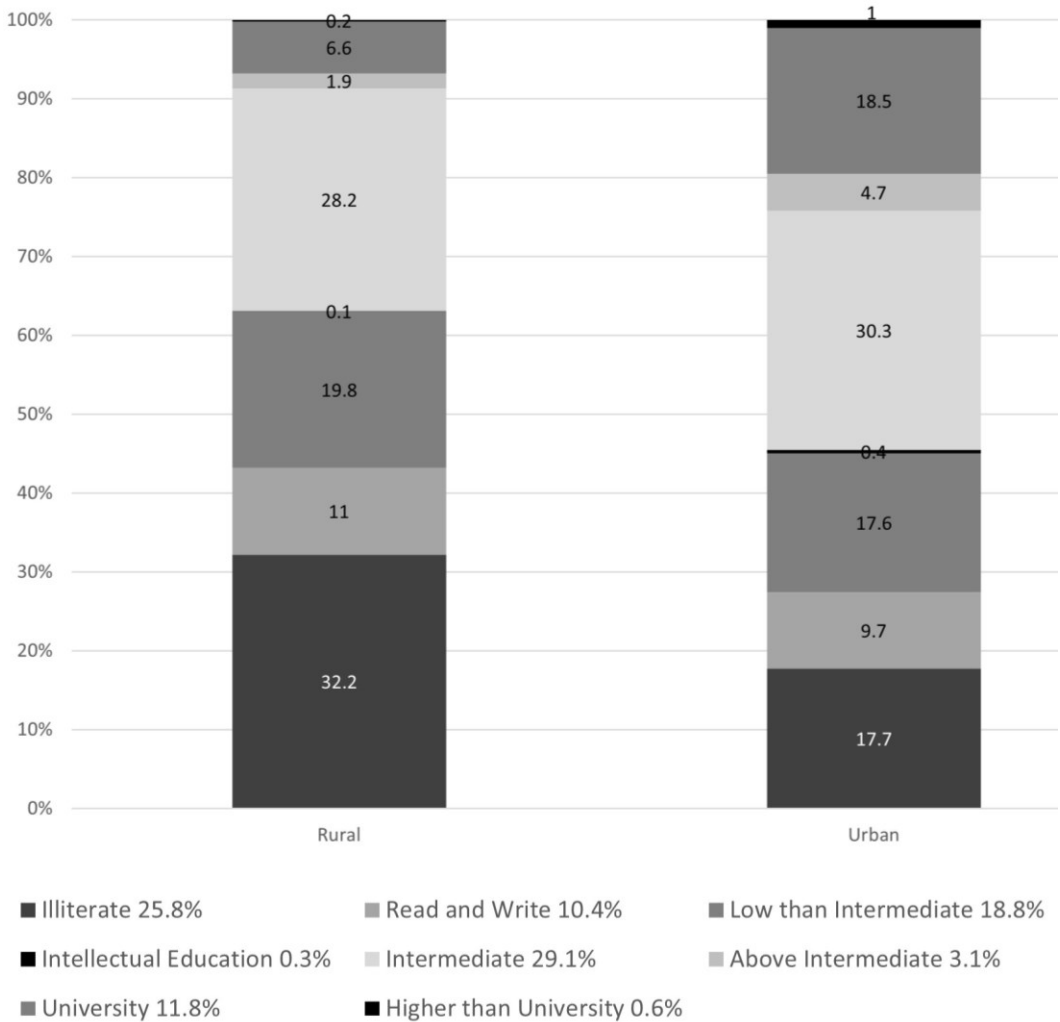
Fig. 1 The Egypt's countryside in regions

The results of 2017 census manifested the educational status of rural population (10 years & over), identifying Illiterate at 25.8%, low – above Intermediate levels at 51%, university educated and above at 12.4%, and those who only read and write at 10.4% of the total (Tab.2) and (Fig.2).

Tab.2 Percentages of educational and sex status of the Egyptian population (10 years & over) in 2017

Educational Status	Sex	Rural	Urban	Education Status	Sex	Rural	Urban
Illiterate 25.8%	Male	25.9	15.0	Intermediate 29.1%	Male	31.7	31.0
	Female	38.9	20.6		Female	24.4	29.5
	Total	32.2	17.7		Total	28.2	30.3
Read and Write 10.4%	Male	11.8	10.1	Above Intermediate 3.1%	Male	2.2	5.0
	Female	10.1	9.4		Female	1.6	4.4
	Total	11.0	9.7		Total	1.9	4.7
Low than Intermediate 18.8%	Male	20.5	17.7	University 11.8%	Male	7.5	19.6
	Female	19.1	17.5		Female	5.6	17.4
	Total	19.8	17.6		Total	6.6	18.5
Intellectual Education 0.3%	Male	0.2	0.5	Higher than University 0.6%	Male	0.2	1.1
	Female	0.1	0.4		Female	0.1	0.8
	Total	0.1	0.4		Total	0.2	1.0

CAPMAS, 2019



By the author

Fig. 2 Educational and sex status of the Egyptian population (10 years +) in 2017

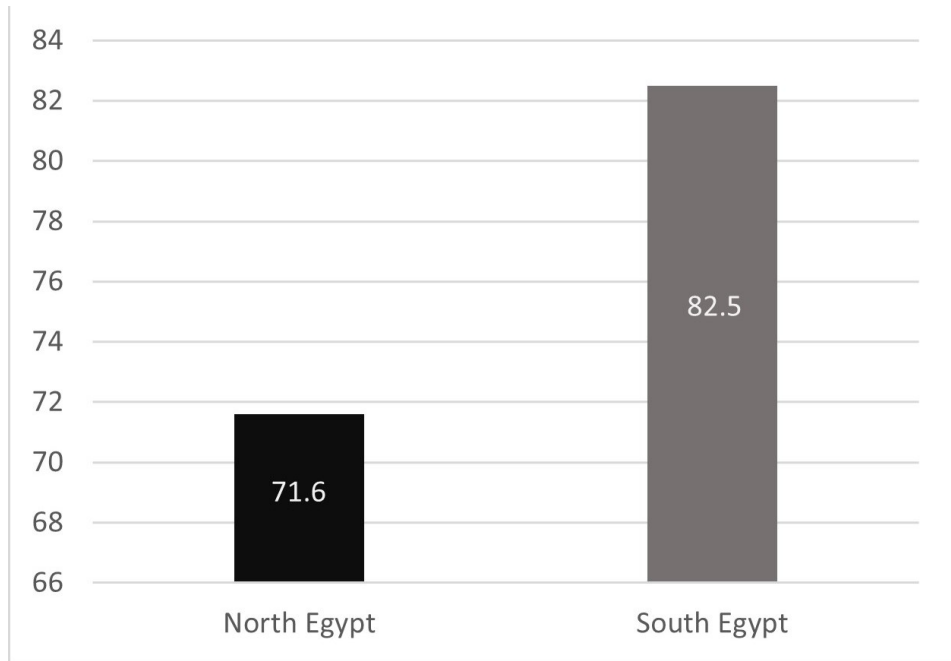
The results of the field survey of Health Aspects in Egypt 2015 conducted by the Ministry of Health and Population demonstrated that about 77% of the Egyptian rural population aged 15- 59 did not use computer, also neither internet nor social media, weekly, in 2015. This indicator means a state of digital

illiteracy, with trends to relative improvement in North Egypt governorates more than South Egypt governorates, and in male more than female people (Tab. 3) and (Fig. 3).

Tab. 3 Percentage of the Egyptian rural population aged 15- 59 who used computer, internet, and social media weekly in 2015.

Region	Six	Use computer once a week at least	Use internet once a week at least	Use social media once a week at least	Use the 3 means once a week at least	Never use the 3 means once a week
North Egypt governorates	Male	28.5	27.0	24.9	22.8	69.1
	Female	19.9	15.2	13.9	12.8	78.9
South Egypt governorates	Male	21.1	19.9	17.7	14.7	75.8
	Female	11.1	8.2	6.4	5.6	87.7
Total Egypt	Male	25.8	24.3	22.2	19.7	71.6
	Female	16.4	12.4	10.9	9.9	82.5

MOHP, 2015



By the author

Fig 3 Egyptian rural population in 2015 who never use computer, internet.

Based on Egypt's Vision 2030 and in line with Egypt's commitment to achieve its Sustainable Development Goals (SDGs) by 2035, the Egyptian government is committed to transforming Egypt into a digital society that uses all technologies in almost all sectors. The strategic goal of Egypt's digital transformation relies primarily on improving the services provided to its citizens through digitization (Ghoneim, 2021).

Egypt's National Education ICT Policy is jointly coordinated by the Ministry of Communication and Information Technology (MCIT) and the Ministry of Education (MOE). The plans until 2015 are to introduce technologies in schools, introduce advanced educational software, provide e-learning services, create

information technology infrastructure, distance learning network, train educational professionals, joint projects with donors.

In 2018. A.M. Mahmoud conducted an analytical survey study about employing the wireless technologies in public education school in Egypt. The study was applied within a multi-stage random sample of (390) individuals contain: principals, agents, schoolteachers of some public schools in three governorates (Cairo - Alexandria - Fayoum). The results of the field study concerning electronic devices clarified that wireless technologies are not generally available in general education schools, except computers that have a 100% coverage percentage. The study sample did not recognize some wireless technologies such as, intercom, wireless keyboard, wireless headphones, and wireless surveillance cameras (WSC), wireless mouse, light emitting diode (LED), walkie-talkies, electronic footprint, Bluetooth segment, and SSB unit. The Ministry of Education applies these technologies to schools, but its use is considered an individual effort by schools. The availability of wireless technologies was limited in some governorates except others, for example, those technologies are available in schools of the central region (Cairo) and Lower Egypt (Alexandria), more than in schools of northern Upper Egypt (Fayoum). As for technological capabilities and equipment available inside schools, the field study showed that they are available in schools at a low degree, with a 48.33% weight percentage (Mahmoud, 2018).

According to field information compiled by the author in December 2019 about computer labs in primary, preparatory and secondary schools in Menoufia governorate, most of these laboratories are not equipped with wireless networks, but rather depend on wired connection with the existing devices which may be up to ten years old. On the other side most of high schools get

labs equipped with wireless networks to use the tablet distributed to its students, and it may contain more advanced computers. Teachers and trainers of computer courses are distributed at a rate of 1-3 teachers per school. The student gets two computer classes per week. It is remarkable that students in primary and preparatory levels are prohibited from accompanying and using a mobile phone in government schools by a decision of the Minister of Education, while students of the first and second secondary grades were excluded from the decision, because they are studying through the educational tablet distributed by the Ministry for use in the academic year 2018-2019. Some international schools in Egypt allow carrying the mobile phone because they apply educational systems could make use of that set, but those do not represent a wide segment of students.

The Egyptian Ministry of Education and the World Food Program are bringing new digital tools and technologies to community schools to bridge the technology gap between children in rural schools and their peers in formal education. WFP and the Ministry of Education have provided public schools (private schools) with more than 1,800 of her tablets and trained teachers to use them in remote rural areas in her eight governorates of Upper Egypt. Thanks to these tablets and the internet, teachers now have access to Egypt's largest national education platform, the Egyptian Knowledge Bank. By connecting this initiative and tablets to classroom projectors, teachers can enable children to explore the world through videos, games, songs, pictures, and stories, expanding connections and exploring new ideas (Al Korey, 2019).

5. Discussion and Conclusion

Issues for transition to digital education in Egypt

Egypt participated in the recommendations of the Dakar International Forum on English as a Foreign Language held in April 2000 in Senegal as follows: "Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programs".

In this regard, the Egyptian Ministry of Education has developed several strategies to help achieve the above-mentioned goals. These strategies include several programs, for example: the main principles of the National Education Strategic Plan (2014/2030), improving the quality of education and the use of information and communication technologies in planning, monitoring, evaluation, and decision-making (MOE, 2014: 9).

In the year in 2013, the OECD/World Bank Review Group completed its report on Egypt before the Egyptian government approved a new strategic plan for education for 2014-2030. Therefore, the OECD/World Bank team only received information about the previous plan and focused their observations and discussions on 2012 and early 2013. The group did not have the opportunity to evaluate the new plan and to evaluate their actions and priorities of the group's recommendations. However, the technology development program called "interactive separation method" is currently being implemented in nine governorates of Egypt and will be expanded to the remaining governorates in the next three years (OECD, 2015: 5-6). The team.

Education reform will eliminate textbooks in favor of research and creative approaches. Teachers become facilitators rather than sources of knowledge, and students develop creative and critical thinking skills. The goal of this project is to change

students' habits and move them from memorization to research, creativity, and critical thinking through digital technologies.

The Egyptian Education Initiative (EEE) was launched in 2014 as a public-private partnership between the Egyptian government and the World Economic Forum's ICT community as a progressive model to improve Egypt's education system. The main objectives of the Egyptian Education Initiative are to improve the quality of education services, monitor technological developments, promote innovative teaching methods using ICT applications and achieve positive results to improve the Egyptian education system in new and innovative ways. Digital content such as virtual labs, 3D visualizations, game-based learning and interactive e-books (MCIT, 2019).

In the year In 2015, the Egyptian government selected the Discovery Learning Community as a teaching and learning improvement vehicle to provide dynamic educational media content focused on STEM to the Egyptian Knowledge Bank (EKB) in English and Arabic. A unique online portal, extensive resources and a variety of free knowledge and culture for 23 million teachers and students in all types of schools.

On May 2, 2020, the Minister of Education announced that the second semester exams would be replaced by the basic education stage with a research project submitted by the student on the platform of the MOE. This may confirm the state's readiness to move towards distance education, especially considering the high number of primary school students. The Minister stated that on May 11, 2020, more than half a million students were able to put their research on the platform (Al-Haddad and Nasser, 2020).

As for the secondary stage, the Minister of Communications confirmed that the fast internet connection has been completed using fiber-optic cables to all the 2563 targeted secondary schools where the educational tablet project is applied. The pilot test of electronic exams was conducted in 2019 for about 500,000 students of the first secondary grade in most Egyptian governorates. That experience showed the presence of some technical and technical problems on the Internet in some governorates, especially in the villages. It also showed the presence of some problems in the servers used by the ministry, and some of those technical problems were solved, which reflects the quality of the infrastructure in all governorates of Egypt (Al-Haddad and Nasser, 2020).

The spread of the Covid-19 virus and school closures has led to an accelerated and widespread adoption of technology in Egypt's education system, as social distancing measures curtail almost all traditional teaching methods.

First introduced in January 2016 as a source of free learning and materials for all Egyptians and used to overcome the Covid-19 outbreak, the Egyptian Knowledge Bank (EKB) has another educational technology has emerged. All elementary and middle school content has been uploaded to his EKB for students to access (Oxford, 2020).

The un-readiness evidence and experiences

In the year Egypt's Ministry of Education, which introduced digital learning and testing in six governorates in 2014, said many students did not follow the new method. The equipment often crashed, and the internet connection was unreliable. That same year, the ministry abandoned the project and reverted to the old

system, which many analysts believe could happen again later that year.

In May 2018, elite tech school exams taken using a computer or tablet failed 44% of the time. Students received questions directly from the national testing center and tests were automatically selected without human intervention. This is the system that the Egyptian Ministry of Education plans to introduce in all secondary schools in 2018/2019.

Opponents of the new system argue that Internet technology and infrastructure in Egyptian schools are weak. The internal network that serves 600,000 students each year is incomplete. Former Undersecretary of Education said: "Egypt is not yet ready to implement a technology-based education system, as the infrastructure of large schools is broken, the number of students in each school is declining, and the digital classroom experience of 2014 has failed. I haven't been able to." (Hafiz, 2018).

A major problem is the inability of decision makers in the education sector to understand school issues before deciding on new reforms.

As a proof of this issue, the first-year high school students were in chaos on Sunday, March 24, 2011, due to a technical failure during their experimental exams on the Education Ministry's new online platform throughout 26 Egyptian governorates. Schools in Cairo and Giza made early leave for all first-grade students after the platform was unable to load the Arabic language test three hours later due to poor internet connections and school services. In his comments, the Minister of Education said, "More than two million people have visited the platform of the new system's primary electronic exam, although it currently has a capacity of 600,000 students" and "The Ministry

of Education has launched a new exam. This year, students in the secondary education system will receive free tablets from the government and it is a platform where students would take exams online using SIM cards free of charge” (Al-Masry Al-Youm, 2019).

The use of the digital education framework in two main aspects: teaching and learning, and leadership and management, will increase the school's readiness for the new curriculum, and improve teaching, learning and student engagement (Scileanna, 2017).

The infrastructure of the information technology demands (Hamdy, 2007):

- Increasing the international internet capacity of the ministry office so that as many people as possible can use the website of the ministry office and use the services provided, especially e-learning.
- Expansion of tools to connect to the Internet circles "E1" (internet connection), the Ministry to exchange information between schools, classes, and departments and to avoid congestion.
- Expanding the use of ADSL (broadband) and leased lines, in addition to those currently available on dial-up networks, to help schools access the Internet.

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