EDUCATION QUALITY AND READABILITY IMPROVEMENT EFFORTS IN PRIMARY PUBLIC SCHOOLS IN EGYPT: A PROCESS ANALYSIS

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By

Mays Abou Hegab

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Education quality and readability improvement efforts in primary public schools in Egypt: A process analysis

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Abstract

This research aims at investigating the challenges of achieving education quality in public primary schools in Egypt, with a specific focus on readability issues. The researcher employed a qualitative approach to research, using semi-structured face-to-face interviews. The main findings of the research suggested that the main reasons affecting the efficiency of the education quality efforts and thus reading and writing proficiency in public primary schools include: (1) poor school resources including oversized classes and poor quality of teachers; (2) enhanced readability curricula and assessments are not in use, especially for restorative programs; (3) contradicting laws and regulations, such as the decree on automatic transfer of students; (4) lack of coordination between the different entities mandated with achieving education quality; amongst others. Recommendations include increasing the public funding of the education sector to cover education quality interventions from the state budget; enforcing the use of the readability curricula and the EGRA assessment tools; as well as adopting pro-poor policies in poor communities.

**Key words:** Primary education; qualitative; education quality; class size; teacher quality; literacy curricula; resources

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**List of Acronyms:**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
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<tbody>
<tr>
<td>AIR</td>
<td>American Institutes for Research</td>
</tr>
<tr>
<td>BOT</td>
<td>Board of Trustees</td>
</tr>
<tr>
<td>CAPMAS</td>
<td>Central Agency for Public Mobilization and Statistics</td>
</tr>
<tr>
<td>CCIMD</td>
<td>Center for Curriculum and Instructional Materials Development</td>
</tr>
<tr>
<td>EDC</td>
<td>Research Educational Development Center</td>
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<tr>
<td>EFA</td>
<td>Education for All</td>
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<tr>
<td>EGRA</td>
<td>Early Grade Reading Assessment</td>
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<tr>
<td>ERP</td>
<td>Education Reform Program</td>
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<tr>
<td>GAEB</td>
<td>General Authority for Educational Buildings</td>
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<td>GILO</td>
<td>Girls Improved Learning Outcomes</td>
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<tr>
<td>GOE</td>
<td>Government of Egypt</td>
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<tr>
<td>INGO</td>
<td>International Non-Governmental Organization</td>
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<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education</td>
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<tr>
<td>NAQAAE</td>
<td>National Authority for Quality Assurance and Accreditation of Education</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
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<tr>
<td>NSP</td>
<td>New Schools Program</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<tr>
<td>PAT</td>
<td>Professional Academy for Teachers</td>
</tr>
<tr>
<td>PRIMR</td>
<td>Kenya Primary Math and Reading</td>
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<tr>
<td>SAGE</td>
<td>Student Achievement Guarantee in Education</td>
</tr>
<tr>
<td>SDGs</td>
<td>Sustainable Development Goals</td>
</tr>
<tr>
<td>SDS</td>
<td>Sustainable Development Strategy</td>
</tr>
<tr>
<td>SERCE</td>
<td>Second Explanatory and Comparative Study</td>
</tr>
<tr>
<td>STAR</td>
<td>Student/Teacher Achievement Ratio</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>WE</td>
<td>World Education</td>
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Chapter 1: Introduction

1.1 Introduction

Education quality is considered one of the topics gaining more importance throughout the past decade. One of the reasons for this attention is a result of the review of the Millennium Development Goals (MDGs). The MDGs review showcased a need to move from a quantitative education for all strategy to a focus on the quality dimensions in education. The newly adopted Sustainable Development Goals (SDGs) in 2015 responded to this need by focusing more on achieving education quality without neglecting enrollments. Goal # 4 of the SDGs addresses the inclusiveness and equitable access to education quality. The targets of this goal also reassured the importance of access to a universal free education for both primary and secondary education (United Nations, n.d., website accessed 22 April 2017).

Achieving education quality has been a major concern for most Middle East and North Africa (MENA) countries (Chapman and Miric, 2009). This study further argued that, despite the various attempts to improve the education quality, reports still indicate a gap with respect to student’s achievement rates. Mastering reading and writing skills in primary school is a pre-requisite for succeeding in subsequent years (see, for example, Piper et al., 2014; 2015; Scarborough et al., 2009; Snow & Mathews, 2016). Reading and writing skills in public schools is a global challenge that is reported on in both developed and developing countries (see, for example, Darling-Hammond, 2000; Ecalle et al., 2006; Jakob, 2007). In developed countries such
as the United States and France, amongst others, reading and writing skills of primary students are a challenge especially in poor, minority districts. In Egypt, 35% or more students in public primary schools do not know how to read or write (see, for example, OECD, 2015; Ministry of Education, 2014; UNDP and MoPMAR, 2015).

The objective of this research is to investigate the causes of the challenges associated with education in Egypt, with specific focus on reading and writing skills of public primary schools students. Challenges of education quality in Egypt are reported to be poor student achievement rates, dropout rates, as well as the lack of students’ abilities to read and write. These challenges are reported on in international publications as well as in the Ministry of Education strategies. The research worked towards identifying the current education quality challenges as well as mapping out the education quality interventions. The main purpose was to understand the missing link between the education quality efforts and the still existing challenges, such as mastering reading and writing skills amongst public primary schools students.

A mixture of historical, systematic and argumentative review of the literature was conducted. Historical review was conducted to identify the development of education quality concepts and definitions. Similarly, historical reviews were used to track the history of the emerging debate around education quality and its relation to student achievement. This was followed by systematic and argumentative review of the literature on the effects of the enabling of education quality on students’ achievements. The argumentative review of the literature was selected as the research topic is value-laden in social science research. Education Resources
Information Center (ERIC) database and The American University in Cairo Library were used to locate relevant peer reviewed journals, books and reports.

This research adopted a qualitative research methodology. The researcher used primary and secondary sources to identify the main challenges encountering basic public primary schools in achieving education quality. Empirical data were collected using in-depth interviews to further understand the implications of the current exiting education quality challenges and interventions. The geographic location selected for this research was Beni Suef governorate. Beni Suef is one of the governorates lagging behind with respect to the Human Development Indicators and was identified housing the poorest villages in Egypt (Handoussa, 2010; ENID, 2015). Moreover, it is one of the governorates that received focus from international donors on education quality interventions for the past two decades due to the poverty status of some of the villages (ENID, 2015). Interviews were conducted with Ministry of Education representatives at the national level and in Beni Suef; Non-Governmental Organizations (NGOs) representatives; school directors; school teachers and the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) representatives. Primary and secondary sources were also used to analyze and validate data.

1.2 Background on the Education sector in Egypt

Education in Egypt is acknowledged to be a right for all citizens, as stated in the constitution. In 1990, Egypt ratified the Convention on the Rights of the Child issued by the United Nations Office of the High Commissioner for Human Rights. The convention demands for universal access to education. Moreover, Article 28 specifies that signatories agree to make
public primary education compulsory and free to all (ONHCR, website accessed April 26, 2016). To date, the 2014 Egyptian constitution (Art. 19) requires free education as the right of every citizen. Article 19 of the 2014 constitutions increases the number of compulsory education to 12 years, to include free education up to high school. “*Education is compulsory until the end of the secondary stage or its equivalent*” “the State shall provide free education in the various stages in the State’s educational institutions according to the Law” (Egyptian Constitution, 2014, p.10).

Abdalla (2008) and Louvelak (2012) argue that demographic factors along with urban migration were one of the main reasons affecting the increased demand on primary school enrollment. In 1986, nearly half (43.9%) of Egypt’s population lived in urban areas, largely in the cities of Cairo and Alexandria, which affected the schools quality in urban areas (Louvelack, 2012). With the increase of population and the demand on public schools, the government was unable to continue meet education quality amongst other public services (ibid). For the school year 2014/2015, net enrollment rates in primary education was 91% percent (Ministry of Education, 2015).

The focus of the Government of Egypt has essentially been on increasing enrollments and attainment to reach global enrollment rates. Less attention was given to other education dimensions, such as education quality (Coachran 1986; El Baradei, 2015). In 2015, quality of primary education in the World Competiveness Report has scored 2.1 out of 7. This ranks primary

---

1 Net enrollment rates is defined as: “The number of children of official primary school age who are enrolled in primary education as a percentage of the total children of the official school age population” (UNESCO, 1997, p.1)
education quality in Egypt at 141 out of 144 participating countries (World competitiveness Report, 2015) which highlights the deteriorated quality of public schooling in Egypt.

The below table indicates the status of public primary education in Egypt (excluding Azhar schools):

<table>
<thead>
<tr>
<th>Primary schools</th>
<th>Classrooms</th>
<th>Students (both genders)</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>17,847</td>
<td>207,292</td>
<td>10,255,297</td>
<td>200,340</td>
</tr>
</tbody>
</table>

Source: CAPMAS, 2016

Analyzing these numbers, the student to teacher ratio in school year 2014/2015 in public primary schools was 29:9, in comparison to 44:2 class density CAPMAS, 2016). These numbers indicate a need to reduce class densities and increase student-teacher ratios to meet international standards, which recommend a 20-25 students’ class size (see, for example, Finn and Achille, 1990; Alumalla, 2015; Ecalle et al., 2006; Krueger 1999; Krueger and Whitman, 2001; Krueger 2002;).

Although pre-university and university programs represent 70% of the 2016-2017 annual education budget, however 82% of the national budget is allocated to covering salaries (Ministry of Finance, web address website accessed March 23, 2017). Purchasing goods and services only
represent 6% of the education budget and 11% are allocated for investments (ibid). In addition, also in the 2016-2017 annual education budget, the Professional Academy for Teachers - mandated to train, quality and accredit teachers - is allocated a total budget of slightly over twenty million Egyptian Pounds, out of which approximately fifteen million Egyptian Pounds are allocated to cover salaries (ibid). This leaves less room for developing training and capacity building programs to enhance the quality of teaching.

Moreover, some laws and decrees in place that regulate the management of the education process are hindering achieving education quality (Pre University Education Strategy 2014-2030; Abdel Fattah, 2015). An example of such decrees is decree number 313/2011 with respect to students automatic transfer which had a negative effect on students reading and writing skills (Abdel Fattah, 2015). The decree stipulates that no student should fail in the primary stage, resulting in the automatic promotion of students, regardless of their achievement level. The decree was issued initially to support reducing dropout rates. Education professionals argue it has negatively affected early grade literacy, whereas dropout rates remained the same.

In many cases, as a result of the low quality of education, students repeat years because their either don’t attend school or fail their exams (El Baradei, 2015; Ministry of Education, 2014). This represents a burden to the education budget. Moreover, although basic primary education is considered free, yet due to the low quality of education, families see the need to substitute formal education by seeking private tutoring (El Baradei, 2015).
1.4 Statement of the problem:

A number of studies (see, for example, UNDP and MoPMAR, 2015; OECD, 2015, Ministry of Education, 2014) stated that 35% or more of students in preparatory stage do not know how to read and write. This confirms the poor quality of the educational service in primary education in particular. The implications of this finding are important, due to the huge number of enrolled students in public primary schools. Primary school students represent 53% of all pre-University enrolled students. Given the high number of enrolled students, it is key to investigate the existing education quality challenges leading to this finding. Moreover, it is important to understand the applied education quality interventions in public primary schools that aim at addressing this problem. Understanding the challenges, and the current education quality interventions is important in order to propose recommendations on how to overcome this in the future.

More specifically, research works towards addressing the following main question and sub-questions:

**Main research question:**

What are the education quality enabling affecting reading and writing proficiency in public primary schools in Egypt?

**Specific research questions:**

- What are the systemic challenges that are affecting reading and writing skills?
- What are the education quality interventions adopted by the Ministry of Education to address these challenges?
• How can the Government of Egypt enhance its education quality efforts to address reading and writing proficiency amongst students of public primary schools?

1.5 Organization of the study:

This research is organized as follows:

Chapter one of the research includes the introduction of the study. A short background on education quality in Egypt is also described. The chapter concludes with the statement of the problem and the research questions.

Chapter two of the research study offers an overview of the conceptual framework adopted in this research.

Chapter three of the research study offers a detailed review of the literature with respect to education quality concepts; the effect of education quality enabling on students’ achievements, as well as reading and writing skills amongst public primary students.

Chapter four describes the research methodology adopted in this research study. A detailed description of the research ethics; strategies in collecting and analyzing data, as well as a description of the research significance are included in this chapter.

Chapter five includes a review of primary and secondary sources on education quality in Egypt. The chapter offers an overview of the current challenges to achieving education quality as well as an overview of education quality interventions adopted by the Ministry of Education.
Chapter six is dedicated to empirical data analysis derived from face-to-face interviews. Triangulation is used between primary data collected and verified with existing primary and secondary sources.

Chapter seven includes the discussion of the findings that were documented in chapter five and offers recommendations for policy makers. It also concludes with a summary of the overall conclusions, research implications and areas left for future research.
Chapter 2: Conceptual Framework

The purpose of this chapter is to describe the conceptual framework that guided the researcher in addressing the research topic and answering the main research questions and sub-questions. In doing so, it is important to start with a review of the various education quality definitions.

The evolvement of education quality definitions:

A historical review of literature was used to trace back one of the first attempts to define and theorize education quality. Beeby (1966) has influenced the evolvement of the education quality concept over the past years. He used his practical experience of being a school administrator in trying to understand what influences education quality (see, for example, Beeby, 1966; Guthrie and Beeby, 1980; Barrett et al., 2006). His focus was on the in-class teaching process in influencing education quality (Beeby, 1966). The education quality framework Beeby (1966) introduced included four sequential types or stages of schools. His attempt to define education quality was focusing on teachers’ quality and former qualification as the main entry points in affecting students’ achievements.

Contrary to this argument is that of Lockheed et al. (1991) where they were more concerned with social and economic development. They developed an education quality model that focuses on the cost-effectiveness to student achievement. Their model was based on a four year study of the effectiveness and efficiency of primary schools in developing countries. The model focuses on four elements to school effectiveness, namely (1) the school environment; (2)
a strong student achievement focus; (3) quality teachers; and (4) material enabling such a resources, books, libraries.

Barrett et al. (2006) examined the development of the concept of education quality. The study reviews the prominent researchers in two main dominant scholarly approaches in defining education quality. These are the economist approach and the progressive/humanist approach. Similar to Lockheed et al., (1991), the economist approach looks at education quality from the perspective of schooling outcomes and the cost of education or the return of schooling (ibid). The humanist approach looks at the educational processes itself and focuses on students and how the education process impacts them (see, for example, Beeby, 1966; Barrett et al, 2006; NG, 2015).

In 2004, UNESCO developed an education quality framework, namely the Education for All Framework (EFA), which merged between the humanist and economist approaches to defining education quality (UNESCO, 2004). The framework focuses on (1) the learner characteristics, such as the background of students and their socio-economic status; (2) the educational context which is the link between the educational process and the context where it operates; (3) the enabling such as the school resources, class sizes, and teacher quality; (4) and the outcomes of the education process represented in academic achievement scores and return to schooling. The framework is coherent in that it focuses on the socio-economic backgrounds of students and how it affects their achievements; the educational process itself represented in schools resources and how they affect students’ achievements; as well as the cost-effectiveness of the education process, or return to schooling:
Figure 1: A framework for understanding education quality:

- **Learner Characteristics**
  - Aptitude
  - Perseverance
  - School readiness
  - Prior knowledge
  - Barriers to Learning

- **Enabling enabling**
  - Learning Time
  - Teaching methods
  - Assessment, feedback, incentives
  - Class size
  - Teaching and learning materials
  - Physical infrastructure and facilities
  - Human resources: teachers, principals, inspectors, supervisors, administrators

- **Outcomes**
  - Literacy, numeracy, and life skills
  - Creative and emotional skills
  - Values
  - Social Benefits
  - Barriers to Learning

- **Context**
  - Economic and Labor Market Conditions in the community
  - Socio-cultural and Religious Factors
  - School readiness
  - (AID strategies)
  - Educational knowledge and support infrastructure
  - Public resources available for education
  - Competitiveness of the teaching profession on the labor market
  - National governance and management strategies
  - Philosophical standpoint of teacher and learner
  - Peer effects
  - Parental support
  - Time available for schooling and homework
  - National Standards
  - Public expectations
  - Creative and Emotional skills
  - Globalization

*EFA Global Monitoring Report, 2005, p.36*
For the purpose of this research, the researcher addresses the effects of the enabling inputs on literacy as described in the Education For All (EFA) framework in the outcomes domain. Literacy is defined as “the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning to enable an individual to achieve his or her goals, to develop his or her knowledge and potential, and to participate fully in the wider society” (UNESCO, 2004, p.5). Similarly, Roberts (2005) defines literacy as the ability to read, comprehend and understand both phonemic and phonic principles of languages. Correspondingly, readability is defined as “The level of difficulty a text presents to a reader. Readability can be expressed in terms of sentence length, average word length, numbers of sentences per page, use of effective headings and other graphic devices. Readability is often expressed as age level or grade level” (Wile et al., 2008, p.3). Thus, literacy, reading and writing skills as well as readability are used in this research interchangeably.
Chapter 3: Literature review

3.1 Introduction

This section offers a review of the literature on education quality enabling and to what extent they affect student achievement, with specific focus on reading and writing skills in public primary schools. An argumentative review of the literature on the effects of the enabling of education quality on student achievement and reading and writing skills has been conducted. The argumentative review of the literature was selected as the research topic is value-laden in social science research.

In this research, I adopt the humanist approach in defining education quality. The reason for the selection of the humanist approach is that it focuses on the effectiveness of the education process and how it impacts students’ achievement. In contrary to the economist approach in defining education quality, it mainly focuses on the cost effectiveness of the education process. Thus it was not selected as this is not the focus of this study. The purpose of this research is not to argue the importance of studying the effect of socio-economic backgrounds on student achievement, but rather to understand the school environment that affects students’ achievements. Moreover, this research is concerned with education quality enabling namely: quality teachers, class sizes, school infrastructure and literacy curricula on education quality outcomes, namely literacy and student achievement. These education quality enabling are reviewed to understand their effect on mastering reading and writing skills amongst public primary students.
3.2 Education Quality Enabling and their effect on reading and writing proficiency:

As referenced in the introduction section of the literature review chapter, the focus of this review is on examining the effect of education quality enabling on students’ achievement, with specific focus on reading and writing skills of public primary students.

3.2.1 School resources and achieving quality:

There is increased attention to research on the link between school resources and student achievement (see, for example, Goe, 2007; Hanushek 1991; NG; 2015; Pieper et al., 2014; Rockoff, 2007; Snow & Matthews, 2016).

The debate on whether school resources or the socio-economic background of students affect their achievement at public schools started with the report issued by Coleman in 1966 (Wong & Nicotera, 2004). In the United States, a classic article was conducted that aimed at identifying the equality of educational opportunity which was commissioned by the Congress (Coleman, 1966). Despite the fact that Coleman did not offer any policy recommendations in his report, the report influenced the debate that socio-economic backgrounds of students affect their achievement level more than increasing school resources. The survey conducted divided the population into six ethnic groups based on their ethnic and racial backgrounds. Coleman’s classic article concluded that despite the reality that minority schools suffer from less education facilities, less quality teachers and less extra-curricular activities, yet when comparing with majority students schools who suffered from the same circumstances, the socio-economic backgrounds of these students had the greatest effect:
Differences in school facilities and curriculum, which are the major variables by which attempts are made to improve schools, are so little related to differences in achievement levels of students that, with few exceptions, their effects fail to appear even in a survey of this magnitude. (Coleman et al., 1966, p. 316).

Similarly to Coleman (1966); Hanushek (1971, 1999, 2005, and 2007) argued that school recourses have no influence on student achievement.

In contradiction to this assumption Chudgar et al. (2015); Greenwald et al. (1996); Krueger (1999; 2001); Murillo & Román (2011); Uline & Tschannen-Moran (2008); confirm a significant positive correlation between school resources and enhanced student achievement. My analysis of the historical and systematic review concluded that in their attempt to prove their argument on the effect of schools resources on students’ achievements, they re-analyzed both Coleman (1966) and Hanushek (1971, 1999, 2005, and 2007) study findings to discard the initial study results by the researchers. They have also conducted their own studies, using quantitative methods similar to the ones used by Coleman (1966) and Hanushek (1971, 1999, 2005, and 2007), to confirm their argument.

Greebwald et al. (1996) and Theunynck (2009) identify school infrastructure services as water, electricity, and sewage. Educational facilities are described as sport spaces, labs, and libraries (Greenwald et al., 1996). Murillo & Román (2011) argue that although no significant relation was found in research in developed countries between infrastructure and student achievement, yet the results are different in developing countries. They use the results of the
Second Explanatory and Comparative Study (SERCE) conducted in Latin America between 2005 and 2009. The study results confirm a strong correlation between basic services, such as water, electricity and bathrooms and enhanced student achievement rates. Similarly, the availability of facilities such as sports grounds, labs, libraries and computer rooms showed a positive relation to classroom learning. Although it is not clear in their paper how the data was collected and analyzed, yet the significance of this research indicates the scarcity of similar studies in developing countries.

Similarly, a study by Uline and Tschanne-Moran (2008) linked school teachers’ perceptions of the quality of infrastructure with students’ tests scores in English and Mathematics in the United States. The study found a correlation between poor schools with deteriorated infrastructure and negative teachers’ and students’ performance, as well as poor local communities’ engagement. Furthermore, the study linked the effect of the deteriorated school infrastructure with the negative school environment and thus a student achievement gap. The analysis of this study and its implications is unique as it associates the effect of poor school infrastructure on the school climate and thus on student achievement.

Looking at studies in developing countries that assess the effect of school resources on students’ achievements, a study from India, by Chudgar et al. (2015) argued that schools in poor countries with extracurricular facilities and activities enhance student achievement especially in mathematics. They developed an empirical study using data from 88 government schools in India and cover 2,072 test scores of students in fifth grade. They use data from one district that includes 190 villages to identify school resources that affect student achievement. One of the
limitations of the study as identified by them was generating data from one locality which is not a representative sample. The study is however implemented in a poor region with disadvantaged students which might inform future larger scale studies. The study also argues that basic infrastructure services such as water, toilets and hygienic environments are important together with other variables to affect student achievement.

To conclude on the school resources section, deteriorated infrastructure were some of the reasons found affecting the performance of the students; teachers; and communities’ engagement levels with the school. This is more apparent when it comes to basic services such as toilets, water and hygiene. Despite the arguments that discussed that school resources do not directly affect student performance, yet these studies were mostly administered in developed countries. In developed countries there is mostly no question of the existence of basic services. These studies were mainly debating extracurricular facilities and activities rather than basic services.

3.2.2 Teachers’ quality and their relation to reading and writing skills:

There is a growing consensus among scholars of education reform that enhancing student achievement is attributed to teacher quality (see, for example, Darling-Hammond, 2000; Harris, 2011; Hanoushek, 1991, Rockoff, 2004). My systematic review of the literature on how teacher quality is defined concluded that like education quality, teacher quality represents a framework that includes different variables (see, for example, Darling-Hammond, 2000; Goe, 2007; Strong 2011).
Goe (2007) developed a framework that defines teacher quality, based on his theoretical review of literature. He defines teacher quality as a process that includes: “Enabling: Teacher qualifications; Teacher characteristics. Processes: Teacher practices; Outcomes: Teacher effectiveness” (Goe, 2007, p.8). Teacher qualifications refer to their former education or certification. Teacher characteristics are their attitudes, race, gender and beliefs. Teacher practices include both in-and outside of class room practices including: preparing for classes; instructing techniques; managing in class students; and the space of interaction with students. Teacher effectiveness is defined as the status of student achievement in comparison to the expected gain in achievement (ibid). The similarity between his framework and that of the humanist approach to defining education quality makes it relevant to the nature and focus of this study. Moreover, both concepts are based on Thompsons (1969) input-throughput-output model of how organizations function (see, for example, Wright and McMahan, 1992).

Similar to Goe (2007), Strong (2011) conduced a theoretical review of literature aiming at defining and measuring teacher quality. His research resulted in identifying five main teacher quality characteristics. The characteristics are: (1) teacher experience; (2) former degrees; (3) type of certification received; (4) coursework taken to teach a subject, and (5) students test scores. The five characteristics are quite similar to the definition used by Goe (2007). Teacher experience; former degree; certification and coursework are relevant to the qualification dimension referred to by Goe (2007). Students’ test scores are also relevant to the teacher effectiveness dimension. Strong (2011) is putting more weight on linking teachers’ former qualification to their effectiveness, whereas Goe (2007) is taking a holistic approach that looks at teacher quality as a whole process or framework.
Darling-Hammond (2000) argues that teacher qualifications “background and expertise” affect student achievement rates, especially with respect to enhancing reading and mathematics skills in primary schools. Moreover she argues that although there is a correlation between students’ socio-economic backgrounds and their achievement levels, yet these are not significant like the teacher qualifications findings. Her findings are based on the analysis of the data of a 50 school survey and analysis of policies and case studies in the United States.

Following the same school of thought, Rockoff (2004) determines that raising test scores in reading affects student achievement at later years. His findings are based on panel data sets from students test scores in various subjects to measure the student performance against different teachers. Furthermore, Rockoff (2004) also concluded that teachers’ former experience teaching the same subject affects students’ performance. Examples of enhanced students’ performance includes raising test scores especially in reading subjects. The sample size covered 10,000 students and 300 teachers from two district schools from a single New Jersey county from 1989 to 2001. Rockoff (2004) reviews the test scores of the same teachers in multiple classes to identify the teacher quality rather than other effects such as class sizes.

From a different standpoint, Harris (2011) argues that ongoing teacher training and development, has a direct effect on teacher quality and thus on student achievement, rather than their former studies or certifications. He uses detailed panel data from all public schools records in Florida for grades 3-10 in mathematics and readings between school year 1999-2000 to 2004-2005. The study confirms a correlation between teacher experience “learning by doing” and student achievement. He argues that formal training or degrees do not affect student
achievement, especially for primary school students. Analyzing his findings, Harris (2011) study provides policy makers with an entry point to enhancing education quality. It does so by offering on-the-job training and development opportunities for non-education major teachers. Harris (2011) further argues that non-education major teachers are often criticized for not having the proper background in teaching the subject. On-the-job training offers a solution to help understaffed schools enhance their quality of teaching. The importance of Harris (2011) findings is that he offers a solution for policy makers when it comes to hiring teachers that do not have the proper certifications or have proper educational backgrounds, such as offering mentoring or coaching opportunities for teacher.

According to Blazar and Kraft (2015), there are two types of on-the-job trainings. These are: (1) coaching of teachers and (2) mentoring of teachers. Teacher mentoring is limited to providing general comments on teaching techniques through sharing own experience, with the aim of improving the teaching practice (see, for example, Blazar and Kraft, 2015; Liberman et al., 2012; Pask et al., 2007). Teacher coaching provides detailed feedback and is mostly useful in developing and learning new skills. It helps the learner to get from where they are to where they want to be (see, for example, McCollum et al., 2013; Pask et al., 2007; Shidler, & Fedor, 2010). Coaching is mostly useful in introducing interactive literacy curricula (Blazar and Kraft, 2015).

Peske & Haycock (2006); Jakob, (2007); and Gagnon & Mattingly, (2012) argue that hiring qualified teachers who have previous study background, certification and experience is a challenge in poor districts. According to authors, one of the main reasons behind this finding is relevant to geographic distribution where teachers prefer teaching in their own hometown areas.
or in geographic locations which are similar to their hometown (Jakob, 2007). Moreover, many qualified teachers prefer working in high quality schools rather than poor quality ones (Peske & Haycock, 2006). Jakob (2007) argues that hiring qualified teachers is not an option for schools located in poor communities. He argues that in underprivileged, marginalized communities, schools do not have a luxury of selecting qualified teachers as they shy away from these schools. Thus, it is important for policy makers to give more attention to these schools and work towards giving more incentives for teachers at those schools. It is also important to offer on-the-job trainings to overcome the lack of prior certification for some teachers.

Looking at similar studies on teacher qualifications and their effect on student achievement from Africa, Piper et al., (2014) confirm that teachers’ on the job training have a direct effect on improving reading skills of students in public primary schools in Kenya. Their findings are based on their evaluation of the Kenya Primary Math and Reading (PRIMR) Initiative after one year of program implementation. PRIMR was a research program implemented in 2012 in 1,384 schools. The program focused on improving English, Kiswahili, mother tongue, and mathematics skills of children in first and second grades of public schools. The study randomly assigned treatment and control schools. Treatment schools used improved curriculum, open ended questions instruction techniques, and 1:1 students to books ratios in comparison to 3:1 ratios in control schools. Adjusted text books were used and the program used stories in reading sessions that were relevant to the students from their local contexts. The mid-term evaluation by Piper et al., (2014) confirmed an improvement in reading skills in treatment schools.
3.2.3 Class sizes and their relation to reading and writing skills:

To begin with, class size is different than student-teacher ratios (Ehrenberg et al., 2001). Class size refers to the actual students taught by one specific teacher in one specific class. The student-teacher ratio is considered all full time human resources whether direct (teachers) or indirect (administrators) that affect student achievement (ibid). Despite the importance of student-teacher ratios to calculate the amount of money spent per student, yet it is not used for determining the effect of class size on student achievement (ibid). The relation between class size and student achievement has gained importance over the past years (see, for example, Biddle and Berliner, 2008; Bosworth, 2014; Finn and Achille, 1990; Krueger, 1999). Class sizes impose economic implications and policy regulations that affect the amount of public spending in the education sector (Krueger, 1999).

Finn and Achille (1990) debate that smaller class sizes in earlier grades have a direct result in improving student achievement in reading and mathematics skills. Moreover, they confirm the correlation to students’ performance in smaller class sizes in the following years. They use data from large-scale controlled randomized experiment conducted in Tennessee, the United Stated of America, for four years starting in 1985. The experiment is known as the Student-Teacher Achievement Ratio (STAR) experiment. The STAR experiment was one of the largest longitudinal cohort study whereas re-analyzing the findings continued with many researchers within and outside the United States, as the experiment was one of the largest implemented longitudinal cohort study (see, for example, Biddle & Berliner, 2008; Darling-Hammond, 2000; Ecalle et al., 2006; Hanushek, 1999; Krueger and Whitman, 2001).
Building on the STAR experiment results, Krueger and Whitman (2001) confirm that students who attended smaller class sizes at earlier grades have maintained their enhanced student achievement level at high school. They analyze the effect of students who were subscribed to smaller classes on their test scores in high schools. The study concludes that attending small sized classes at earlier grades had a positive relationship on the same students’ performance at later years.

Similarly, Biddle & Berliner (2008) confirm that class size reductions have a direct positive effect on student achievements, especially for disadvantaged groups. Their study is based on a systematic review of the main class size reduction experiments findings conducted in the United States. These are the Tennessee Student-Teacher Achievement Ratio (STAR) program, the Wisconsin’s Student Achievement Guarantee in Education (SAGE) program and the California class size reduction program. They argue that the gains of smaller class size reductions are more effective in classes with less than 20 students. Although the study focuses on the gains for disadvantaged groups, yet keeping class sizes at 20 students might not be an option for many developing countries who might not have the financial resources to meet this ratio. A focus to reduced class sizes should be given in rural or urban-poor areas where there are student achievement gaps for disadvantaged groups (ABD, 1999; Jakob, 2007).

In France, Ecalle et al., (2006) conducted a similar STAR experiment design in 2002, yet at a smaller scale. The effect of the results of smaller class sizes were noticed with students with French as their first language, and who came from average socio-economic backgrounds. Their findings also found significant correlation between smaller class sizes and enhanced student
achievement in reading and writing skills for first grade students. The study findings confirmed the former STAR results. The importance is that the study used the same STAR experiment designed yet at smaller scale and in a different context than the United States and had similar findings to that of the STAR experiment.

Looking at similar studies from the region, in Saudi Arabia, Almulla (2015) conducted a mixed approach of a qualitative-quantitative study on the relation between class sizes and student achievement. He confirms that teachers in bigger size classes use the typical lecturing technique, while teachers in smaller size classes resort to group work and pairing. Moreover, according to him, teachers in smaller size classes tend to pose open ended questions that stimulate student thinking. In bigger classes they resort to close ended questions. The importance of his findings are of two-fold: first it found similar results to those in other contexts and countries which is that smaller class sizes at younger ages enhances student achievement; and it is one of the few studies that used a mixed methods approach in data collection in understanding the relation between smaller class sizes and students’ achievements.

To conclude on the review of the effect of class sizes and student achievement, reduced class sizes have proven to enhance student achievements, especially in reading and writing skills at public primary schools. Moreover, student achievement gains and enhanced performance were maintained during high school for those who attended smaller classes. Although many studies have concluded with the need to reduce class sizes (see, for example, Finn and Achille, 1990; Ecalle et al., 2006; Krueger 1999; Krueger and Whitman, 2001; Krueger, 2002), yet the debate of the economic affect this imposes remains an issue that it best discussed at country
specific levels. As a result of the analysis of the review of the literature, one of the recommendations is to allocate reduced classes policies in poor and marginalized districts (ABD, 1999). Policy programs that aim at adopting from other international experiments which were implemented in developed countries have to be cautious. These programs need to be accurately planned to ensure proper teacher allocation as well as sufficient funds to operate more classes.

3.3 Programs addressing reading and writing skills:

Developing age appropriate reading and writing skills is key for primary schools students to be able to succeed in following years (Snow & Matthews, 2016). Piper et al. (2014; 2015); Scarborough et al. (2009); and Snow & Mathews (2016) argue that students who face literacy skills challenges at early grades have more difficulties when they enter secondary school. Early grade reading and writing disabilities are linked to poverty and poor quality instruction skills (Piper et al., 2015).

Curricular content together with teacher quality and in class instruction were found to be correlated to early grade reading and writing proficiency. These are some of the reasons behind dropout rates in the Unites states (NRP, 2002; Snow and Matthews, 2016). Snow and Mathews (2016) argue that the current curriculum in the United States mostly focuses on improving a set of constraints skills. Constraints skills are identifying the letters of the alphabet or common spelling rules. Snow and Mathews (2016) argue that these are basic skills that can be easily learnt. They discuss in order for students to succeed in subsequent years, it requires developing curriculum that works towards improving the unconstrained skills. Unconstrained skills are vocabulary and subject knowledge (ibid). They review various literacy programs and conclude
that interventions that introduce a comprehensive approach to literacy such as improving curricula, enhancing teacher quality and reducing class sizes are difficult to sustain. They recommend using simpler programs that can be edited depending on the local context.

In a study developed to identify the effectiveness of literacy interventions on students at risk with reading and writing skills, Vaughn et al. (2003) offered supplementary reading classes to 24 students for intervals ranging from 10 weeks to 30 weeks. Out of the 24 students, 23 maintained their reading fluency scores in regular classrooms. Although the sample of the treatment group was small, yet the results offered a good base for replication of the study at a larger scale. The results of the study argued that introducing supplementary reading classes are effective. This study however did not discuss the factors affecting learning disabilities of those students and mainly offers a solution to deal with early grade reading and writing disabilities.

In Kenya, the final evaluation study of the Primary Math and Reading (PRIMR) program in 2015 concludes that the program has proven to be effective with respect to enhancing reading and writing skills (Piper et al., 2015). One of the interventions of the program was introducing an adjusted literacy curriculum in treatment schools, in addition to training the teachers and reducing the student to book ratios. The final evaluation concluded that in comparison to the baseline conducted at the beginning of the program, students have showed enhanced literacy skills. It is yet however unknown to what extent these gains were maintained. A longitudinal cohort study similar to the STAR experience (see, for example, Biddle & Berliner, 2008; Darling-Hammond, 2000; Ecalle et al., 2006; Hanushek, 1999;; Krueger and Whitman, 2001;) should be undertaken to determine the success rate of those students in secondary and high school to
better influence policy making. Currently, the review of the Kenya evaluation study offers a baseline for arguing with policy makers on the need to introduce the improved literacy curricula and to increase public resources funds to allocate more in-class text books.

In Malaysia, Md-Ali et al. (2016) developed a qualitative study to determine the characteristics that are required to implement literacy and numeracy curricula. The study collected empirical data from 32 primary English language teachers and 35 primary Mathematics teachers. Md-Ali et al. (2016) argue that there are four main themes for characteristics needed to successfully implement literacy and numeracy programs: (1) structure, which refers to the clarity and organization of the literacy curricula; (2) knowledge and understanding, which refer to the teachers understanding of the curricula, as a result of on-the-job training or former qualifications; (3) strategies and skills of teachers that relate to in-class management; and (4) values and social responsibilities teachers should uphold when teaching literacy and numeracy curricula.

Based on the literature review on reading and writing skills program interventions in underprivileged schools and communities, it is argued that literacy enhancement interventions need to be introduced within holistic approaches that address education quality issues. These holistic approaches include enhancing teachers’ qualifications; reducing class sizes; increasing schools resources and adjusting the curriculum for those students that are at risk of low literacy skills. Literacy programs were used in schools with children that have already been assessed of having reading and writing challenges (see for example Piper et al, 2014; 2015). Literacy curricula need to be developed and a clear and easy format for students to engage with. Moreover,
teachers need to be trained on how to use the literacy curricula, while they keep enhancing their in-class teaching techniques.
Chapter 4: Research Methodology

4.1 A qualitative approach to research:

The purpose of this chapter is to provide the research approach used in this research to addressing the research topic in addition to describing how the data was collected, described and analyzed. The study aimed to understand why the Government efforts in enhancing education quality efforts have not been successful so far.

Moreover, qualitative methods for data collection were selected for the following reasons: (1) The research is of an exploratory and descriptive nature, which requires gathering context specific rich data to better understand the dimensions of the research problem (Marshall et al., 2011); (2) the research is working towards gathering in-depth data to understand the missing link between education quality efforts undertaken by the Government of Egypt and the still existing challenges, such as reading and writing skills; (3) although the researcher covered a small sample of one geographic location aiming at having a better understanding of the problem being studied, yet there is a possibility to generalize on the findings and offer recommendations; (4) the research is building on individual lived experiences in better understanding the problem being studied, where the participants in the study are the main informants about the problem being studied (Berg, 2009; Marshall et al., 2011); (5) the research is mainly generalizing and linking to theory whereas the analysis section will link the findings to theories referenced in the literature review section (Ambert et al., 1995). Furthermore, the steps undertaken in this research were cyclical rather than linear. The literature review section informed the design of
The researcher started reviewing primary and secondary sources to understand that respond to some of the research sub-questions during the Research Methods course that was attended in spring 2016. The timeframe for conducting this research took place between March 2016 and March 2017.

4.2 Research ethics:

4.2.1 Institutional Review Board approval (IRB)

The researcher obtained the IRB approval to conduct the research in October 2016. IRB approval is required to any research involving human subjects by all American agencies looking for federal and non-federal research support (Babbie, 2007). As a graduate student at the American University in Cairo, I also had to seek IRB approval as per the University’s policy. Interviews with research participants took place over the period between November 2016 and March 2017.

4.2.2 Ethics and procedures of the interviews

Informed consent form was developed in both Arabic and English languages. The consent form was orally shared with the respondents, highlighting the purpose of the study, the use of the research findings, the confidentiality of information used as well as potential risks, if any.
Each interview lasted around 30-45 minutes. Some interviews were audio-taped, after getting the permission of the respondents. Audio-taped recordings are kept on the researchers’ password protected desktop. In addition to the audio-taping, the researcher was taking notes on the social setting of the interview. In some other interviews, specifically with public officials, the researcher took notes during the interview and then transcribed the interviews within two days after each interview took place.

It is important to note that the researcher works in an INGO that also implements education programs in Egypt. The researcher is not working with the education program, nor has former experience working on education issues, and is not bias to the research topic. Voluntary participation was guaranteed throughout the data collection process (Babbie, 2007). Moreover, pseudo names were used to ensure the confidentiality of the participants, following the do-no-harm principle (ibid).

4.3 Overall strategy in data collection:

4.3.1 In-depth interviews:

The main strategy for gathering data was conducting in-depth interviews as it allows participants to describe their own experience and using their own words (Jackson, 1999). Moreover, because the purpose of the research is to gain a better understanding of the main research problem, in-depth interviews allow for probing and allow for asking further questions that might have not been planned for data collection but have emerged during the interview
(Marshall et al, 2011). This allows the researcher to narrow the focus of the study based on the insights gained from the informants of the study.

The interview guide was designed to tailor specific questions to the different research participants, depending on their background and their affiliation.

4.3.2 Type and size of the sample:

The sampling methodology for this research used was a mixed approach between a theory based and a snowball approach (Marshall et al, 2011). The main approach for choosing the sample size was informed by the literature review with specific focus on education quality concept definition. Given the timeframe and limited resources of this research, the researcher is focusing primarily on examining the enabling input domain, with specific focus on teacher quality, class size, school resources and literacy curriculum in answering the research question. According to this focus of the research, and based on an initial literature review as well as primary interviews, the following stakeholders have been identified as the main focal points for interview:

(1) Four staff working at Education programs at NGOs implementing education quality programs in cooperation with the Ministry of Education;

(2) Two teachers from public primary schools that implement preventive and restorative readability programs;

(3) Two public primary school directors who have been accredited by NAQAAE

(4) One Employee at the National Authority for Quality Assurance and Accreditation of Education (NAQAAE).
(5) One public official working at the readability unit at the Ministry of Education at the national level

(6) One public official working at the readability department at the Directorate level

(7) One public official working at the readability department at the Department level

(8) One public official working at the accreditation and quality department at the sub-national level

(9) One staff member of the Teachers First national initiative

The researcher was driven by the importance of ensuring the validity of the research, hence resorting to the triangulation of data by interviewing different stakeholders. Moreover, a review of different primary and secondary documents that addressed the topic being studied was conducted (Ambert et al., 1995).

Using a snowballing sampling technique (Marshall et al., 2011) allows the researcher to further identify respondents based on the findings and analysis of the in-depth interviews, which has been the case for this research. The in-depth interviews guided the researcher on other stakeholders that are important to meet with, such as the Teachers first program staff.

4.3.4 Choosing sample sites:

Choosing the sample site was guided by the review of primary sources such as the national pre-University strategic plan and reports of education programs implemented in coordination with the Ministry of Education. Initially, it was planned to conduct interviews in both Giza and Beni Suef governorates. Furthermore, Giza and Beni Suef were ranked within the ten governorates with the poorest villages in Egypt (World Bank, 2007).
Giza was also ranked as one of the top governorates with high urban poverty rates (ENID, 2010; GIZ, 2013), where lack of health services and poor education quality has been identified as the key predominant issues (GIZ, 2013).

However and due to accessibility issues to Giza schools, the researcher was successful to conduct interviews in Beni Suef only. For Giza governorate, the researcher was able to interview two education program staff working for INGOs who were willing to talk about their experience in working in public primary schools in Giza. Although the researcher was not able to meet with other stakeholders in Giza, yet the review of primary and secondary sources was able to shed light on the phenomena in Giza schools.

4.3.5 Data analysis:

In analyzing the data from the interviews, the researcher used a thematic approach in organizing the data. Traditional analysis of interview transcripts was used. Interview transcripts were reviewed and themes of teacher quality; class size; school resources and literacy programs were highlighted and grouped together. The researcher stated the main findings under each section; used quotes from the interviews and linked those findings to primary and secondary sources that were reviewed prior to conducting the interviews.

4.4 Limitation of the study:

The study is mostly limited by resources. Resources include both financial and time dimensions to implement the study. Although the study was conducted over a period of one year, yet financial resources to cover more than one geographic area hindered the researcher to travel.
Accordingly, informed purposive sampling was used to identify the geographic location and a mix between purposive sampling and snowballing sampling was used to identify the research participants.

Time limitations to retrieve official approvals were another aspect limiting the scope of the study. Although the study was planned to be implemented in both Giza and Beni Suef governorate, yet accessibility in Giza governorate to local communities and public officials was not possible. The study also focuses on education quality enabling and their relation to student achievement, with specific focus on teacher quality; class sizes; resources and literacy curricula. Other aspects of education quality such as the outcome to schooling and students social and economic backgrounds were not investigated.

4.5 Professional significance

My experience in education has emerged since I entered the development field in 2005. My interest lied in researching the underlying causes of poverty as well as factors that enhance the human development situation in Egypt. The intensive focus on governance and social accountability projects, as well as adopting a Rights Based Approach to development has deepened my understanding on the current development challenges facing Egypt. I consider education quality as a key entry point to sustainable development, as it builds voice capacities of citizens to hold public officials accountable and demand for better services.

There are a couple of research studies capturing some forms of education quality challenges both on the MENA region level as well as in Egypt. Challenges of achieving education
quality include oversized classes; quality and former experience of teachers; the curriculum that is based on memorizing, amongst others. Most recent documents have even documented that there is an increased readability challenge amongst primary and secondary school students in public schools in Egypt (see, for example, Pre-University Strategy, 2014-2030). Many programs have worked towards addressing some of these challenges. Despite these programs, these challenges still exist, which is the focus of this study. The study is aiming at understanding why these challenges still exist, despite the various attempts to address them.

Working with an International NGO that implements education projects was an entry point to learn about the existing initiatives working towards addressing education quality challenges. This was one of my drivers in exploring the missing link between the ongoing efforts to enhance education quality and the still existing challenges.

I have spent almost a year researching the topic before I started the actual data collection, which has helped narrow down the research focus. I am hoping this research will add to the existing literature on education quality challenges in public primary schools in Egypt. This research offers recommendations to policy makers on how to better enhance and align interventions addressing this topic.
Chapter 5: Education Quality in Egypt: Challenges and Interventions

This chapter aims at answering two of the main study questions looking at Education quality challenges in Egypt and interventions undertaken by the Government of Egypt to address these challenges.

The review of the primary and secondary sources for this chapter used Government portals to extract relevant strategies; laws and executive bylaws. Academic journal articles and reports issued by education quality researcher; international donor reports; and bi-lateral donors that focus on education quality in Egypt were collected.

5.1 Challenges pertaining to enabling inputs in Egypt:

5.1.1 The demand on teacher quality:

The Ministry of Education adopts a continuous teacher development and ongoing training strategy (see, for example, UNESCO and Ministry of Education, 2015). The interest in teacher training is apparent when looking at the number of training opportunities the Ministry offered from 2009 to 2013 (UNESCO and Ministry of Education, 2015, p. 100):

“Training of trainers statistics on Egypt level indicates that (3190) trainers were trained from September, 2009 to September 2013 in addition to (83) thousand teachers, (290) senior inspectors, (4500) inspectors, 616) thousand principals, head teachers and vice-
principals. (17) thousand Teachers’ guides of school subjects in all Egypt schools.”

The importance of focusing on teacher training and development is a result of hiring teachers that still hold medium qualifications (ibid). Almost 30% of pre-university teachers do not hold educational qualifications (Ministry of Education, 2014). The quality of trainings have been criticized by teachers, especially that available budgets are not sufficient to cover these costs and are left for local resources (ibid).

Furthermore, Abdel Fattah (2015) argues that the newly introduced law 155/2007 on the teachers’ cadre has resulted in hiring high-qualified teachers only when required. Article 72 in Law 155/2007 stated that: “Without breaking the rules that are provided in the law dealing with civil government employees for filling civil jobs, anyone filling a teaching job as of the date this section was passed must the following conditions (Law 155, 2007, article 72):

1. Must be of Egyptian nationality or a national of one of the countries that reciprocates with hiring Egyptians applying for public positions. According to the executive regulations, the Minister of Education may provide an exception to this rule when contracting foreign teachers.

2. Must be a graduate of the Faculty of Education, or obtained a post-secondary degree in education, or obtained an appropriate post-secondary degree in addition to a certificate in education.

3. Must have met the required professional development programs, and the regulations specifying the requirements for qualifying for education.
The Ministry of Education had stopped hiring teachers for a period of time, and as an attempt of decentralizing the system it transferred this responsibility to school management; Board of Trustees (BoT); and teachers (OECD, 2015; Abdel Fattah, 2015). As a result of this, Social Workers are not dedicated to their original work and are teaching instead to fill the teacher shortage gap (Abdel Fattah, 2015).

5.1.2 Class sizes in public primary schools:

The teacher to student ratio in public primary schools is dependent on the population growth and school age children, in addition to their geographic locations (OECD, 2015). The General Authority for Educational Buildings (GAEB) issues guidelines and oversees all schools buildings and maintenance. Their guidelines indicate that current class sizes should not accommodate more than 35 students (GAEB, n.d., website accessed March 17, 2017).

In 2012, the student to teacher ratio varied from as low as 16.2 in Damietta to 46.7 in 6th of October (CAPMAS, 2012). In 2016, the Central Agency for Public Mobilization and Statistics (CAPMAS) “Egypt in numbers statistics” also reported a class density of 44.2 (CAPMAS, 2016). Hunt et al., 2010 indicate a higher class density rate than those reported by both the Ministry and CAPMAS reaching up to 60. As a result of class densities, 4.45% of school operate in more shifts (UNESCO and Ministry of Education, 2015). Moreover, class densities are also affected by the shortage of teachers, where some schools resort to merging classes as a result of lack of teachers (Abdel Fattah, 2015).
5.1.3 Early Grade Literacy Curriculum:

Primary school curriculum has been criticized that it does not promote creativity and focuses on memorizing using traditional teaching methods in the form of lecturing (see, for example, Louvelak, 2012; Ministry of Education, 2014; OECD, 2015; UNESCO and Ministry of Education, 2015). The curriculum is not interactive, despite the attempts to introduce more in class activities, and textbooks are the main source of information for students, who focus on memorizing the content to pass exams (Ministry of Education, 2014). The curriculum is not designed to reflect the reality of local contexts, which makes it difficult for students to comprehend (Abdel Fattah, 2015).

Teachers are usually not invited to the debate on enhancing the curriculum which affects their ownership and willingness to adopt and implement the curriculum (UNESCO and Ministry of Education of Education, 2015). The 2014 Survey of Young people in Egypt found that “While 40.4% of students report teachers “always” only want students to memorize, just 10.5% report that the teachers always encourage students to form their own point of view, and only 9.5% report that the teachers always encourage students to express their opinions” (Roushdy et al., 2015, p.7).

5.2 Education Quality Improvement interventions:

An overview of pre-university education strategies with focus on primary education was conducted. Government portals were accessed to extract relevant strategies; laws and executive bylaws. Academic journal articles and reports issued by bi-lateral donors that focus on education
Recognizing the importance of education quality and following the national and international development trends, the Ministry of Education in Egypt vision states that it “seeks to promote the pre-University education system to achieve greater access and absorption, through a high-education quality system, aiming at building the Egyptian citizen in accordance with the civilization and human values using a participatory, decentralized system that depends on active and productive community participation” (Ministry of Education, website accessed February, 15, 2017).

Addressing education quality challenges has gained interest since the development of the Ministry of Education Strategy of 2000-2015, followed by the new strategy 2014-2030 (Ministry of Education, 2000; 2014). Analyzing both strategies, accessibility and quality of education have been the main dimensions in developing program interventions. Attention has been given to enhancing the quality of teaching and teachers, and some initiatives have focused on enhancing school governance mechanisms.

The following sections provide a review of the pre-University education strategies in order to understand how the Ministry of Education addresses the issue of education quality. The strategies referenced key interventions to address education quality challenges, such as: (1) The
National Authority for Quality Assurance and Accreditation of Education, responsible for assessing and accrediting schools for education quality; (2) the Professional Academy for Teachers, Training and Quality Units, and Teacher’s first initiative, responsible for addressing the issue of teacher quality; (3) the General Authority for Education Building, responsible for addressing school infrastructure and class sizes; (4) Center for Curriculum and Instructional Materials Development and Readability Units, responsible for addressing readability curricula; An overview of NGO-Government led projects that were addressing education quality challenges is also provided. These projects were also referenced in the pre-University education strategies as part of the Ministry of Education interventions to address education quality challenges.

5.2.1 Key Interventions by the Ministry of Education:

5.2.1.1 Education Strategies: Education for All, 2000-2015

The Education for All strategy was developed with support from UNESCO. The 2000-2015 strategy objectives included (UNESCO and Ministry of Education, 2015, p.19):

1- An effective school able to provide education quality service in a non-traditional learner-centered school environment aiming at providing students with self-learning and creative thinking and life skills.

2- A distinguished teacher with a high level of professionalism and expertise capable of educational leadership and good planning and being an effective change and development agent.
3- Learner-centered programs and curricula that mirror the local community needs and aspirations and enhance scientific and creative thinking, problem solving, lifelong learning and citizenship.

4- Inclusion of advanced technology in the educational process (school curriculum, textbooks, school management and educational system as a whole).

5- Community participation in the enhancement of the quality of educational for all.

6- Distinguished educational management based on transparency, accountability, informatics and accountable leadership that is aware of a vision for development in a decentralized framework.

The above objectives have a focus on both accessibility and quality in developing programs that respond to achieving those objectives. Primary education programs included building more schools to reduce class sizes; closing the enrollment rate gaps; enhancing student learning environment and building the capacity of teachers.

Programs that targeted enhancing teacher quality included a dimension for teachers attending trainings and courses as a pre-condition to promotion (UNESCO and Ministry of Education of Education, 2015). Moreover, primary school teachers were increased to reach 39,749 in 2012/2013 (ibid). Furthermore, focus was given to introducing technologies in the instruction process (Ministry of Education, 2000).
5.2.1.2 Pre-University Education Strategy, 2014-2030

The main objectives of the 2014-2030 strategy are (Ministry of Education, 2014, p.2):

- Offering equal opportunities to all citizens at schooling age to enroll and continue their education process, while target the poorest communities as the main priority
- Enhancing quality and effectiveness of the education service. This is achieved through: updating the curricula; introducing efficient technologies; sports and non-sports activities; and effective teacher for every student in every class; an effective leadership in every school; and internal and external professional development opportunities for every teacher and administrator
- Supporting the institutional infrastructure, especially in technical schools; building education staff capacities to implement good governance decentralization practices

According to the 2014-2030 pre-university strategy, the main challenges to achieve education quality in Egypt include the deteriorating status of education quality in primary schools; lack of technologies in primary schools; weak reading, writing and mathematics skills from first through third graders of primary schools; class sizes; lack of qualified teachers; amongst other challenges. The focus of the new strategy is on achieving an equality to the educational opportunity by adopting pro-poor policies.

The 2014-2030 strategic plans’ priority areas of intervention for education quality are (p.65): (1) enhancing school infrastructure; (2) enhancing the quality of school life/environment;
(3) updating the curricula to enhance research skills; analytical skills; critical thinking and using internet and communication technologies; (4) adopting international curricula in science; mathematics and foreign languages; (5) enhancing the performance of teachers and encouraging them in using the new curricula that stipulate active learning; (6) reducing dropout rates; absence rates and years repeating rates. Similar to the Education for all strategy, there is an increased focus on access to schooling and enhancing teacher quality as entry points to achieving education quality.

Correspondingly, the Egypt 2030 Strategic Development Strategy is in alignment with the Pre-University 2014-2030 Strategy where achieving education quality is at the heart of the Education and Training pillar. Furthermore, the SDS 2030 aims at enhancing Egypt’s education quality rank to reach 30, instead of the current rank of 140 (SDS Egypt 2030, website accessed March 09, 2017).

5.2.1.3 **The National Authority for Quality Assurance and Accreditation of Education:**

In 2006 the government established the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) through law number 82/2006, which is an independent authority aiming at improving and monitoring education (OECD, 2015). NAQAAE developed a self-performance assessment tool for schools that aim at being accredited for quality (NAQAAE, website accessed 25 April 2016).

Quality Assurance and Accreditation Directorates and Departments were established in all governorates to facilitate the process on the sub-national level (UNESCO and Ministry of Education of Education, 2015). The self-assessment toolkit adopts the Education for All (UNESCO,
2004) education quality framework dimensions, especially with respect to the education quality enabling and their relation to enhancing education quality and student achievement. The assessment toolkit focuses on schools resources and infrastructure; school governance; teacher quality and teacher development plans; class sizes; student scores in Arabic, Mathematics; English, Science and Social Studies; as well as extra-curricular activities (NAQAAE, self-assessment toolkit, n.d). The self-assessment toolkit for primary schools focuses on four main pillars (NAQAAE, Self-assessment toolkit, n.d.): (1) Institutional Capacity, which measures school mission and vision, school governance, learning environment, human and financial resources, community participation, quality assurance and accountability; (2) School building safety and security. Attention is given to measuring school resources such as class sizes, benches, chairs, chalkboards, libraries, storage room etc.; (3) Learners outcomes (over 65%) in Arabic; Foreign Language; Mathematics; Social Studies and Sciences; (4) Teachers’ qualification and in-class performance.

The process of accreditation is as follows (see, for example, Decree 82/2006, 2006; executive bylaw 82/2006, 2006; NAQAAE, website accessed March 01, 2017; UNESCO and MoE, 2015):

1. The school contacts its respective education department responsible for accreditation and requests to conduct the self-assessment;

2. The education department holds a first visit to the school and reviews the accreditation criteria with the school. This could result in either supporting the school to complete the self-assessment; or to advise the school of the areas of development they still need to work on to meet the accreditation criteria.
3- After the school fills out the self-assessment, it is submitted to NAQAAE’s headquarters. NAQAAE then sends an inspection visit. The inspection visit is conducted by trained and certified teachers by NAQAAE.

4- If the school meets all quality criteria, they are accredited for a period of five years. If they do not meet some of the criteria, they can be put on hold until and develop an enhancement plan. If the school scores very low, it has to wait a minimum of one year to re-apply again.

5- The accreditation is for five years. During the five years, ongoing inspection visits take place. These visits can result in continuing the accreditation; freezing it should there be a need for enhancements; or completely suspending the accreditation.

The model of NAQAAE is considered successful in the design of it, because it is based on a self-sustaining and self-financing model, without having to receive funds from the state budget. Moreover, NAQAAE’s self-assessment toolkits were developed using the same pillars of the Education for All Framework developed by UNESCO in 2004 to measure education quality. In addition to the self-assessment toolkits which encourage schools ownership of the process, NAQAAE ensures they validate the results of the self-assessment using external assessors trained by them. This increases the accountability level of the process. Having the accreditation timeframe for a five year period is also adding to the success of the model, as it ensures schools undergo continuous review to maintain their quality.

5.2.1.4 The Professional Academy for Teachers (PAT)

The professional academy for teachers was established by law 155/2007. Article 74 stated that all hired teachers under the new law have to get an accreditation certificate. Article 75
stipulated that a professional academy for teachers to be established to accredit teachers and enhance teacher quality (Law 155/2007. Education Law, n.d.). PAT aims at building the professional capacities of teachers that are part of the Ministry of Education workforce (Academy, Ministry of Education of Education, website accessed March 07, 2017). PATs mandate includes: (1) develop teacher professional development policies and plans; (2) develop training programs aiming at enhancing teacher’s capacities; (3) suggest teachers’ performance evaluation tools and policies; (4) support schools training and evaluation units (ibid). In addition to that, PAT offers teachers’ cadres’ certificates; accredits all teachers training programs and centers; develops teachers’ qualifications and trainings data base (ibid). Financial incentives are offered to teachers who are certified by PAT.

Certification of teachers is granted based on passing exams as well as designing interactive lectures. These incentives amount up to 50% of their basic salaries in addition to annual increases (Law 155/2007. Education Law, n.d.). Applying for certification is mandatory for teachers who are hired after 2007. Teachers who were hired under the education law 139/1981 need to submit a request to get accredited and pass the exams (Law 155/2007. Education Law, n.d.). Moreover, the law stipulated merits to be given to teachers who hold higher degrees equivalent to Masters and PHD.

The focus of the Ministry of Education on teacher quality and their accreditation is clear as explained through the above referenced laws and bylaws. Moreover, analyzing this mandate the focus here is mainly of the enabling of teachers’ quality, as explained by Goe (2007), which are the teacher qualifications.
5.2.1.5 Training and Quality Units at schools:

A ministerial decree 137/2012 was issued to enforce the establishment of Training and Quality Units at school level (primary, preparatory and secondary). The units report back to the Quality Departments at district levels, who then report to quality directorates at governorate levels. Training and Quality units carry the following responsibilities (Article 2, Decree 137/2012, n.d.):

- Developing schools mission, vision and objectives in cooperation with board of trustees and the school administration
- Developing school enhancement plans; monitoring and evaluating the plans in cooperation with the board of trustees
- Self-assessment of the school in accordance to NAQAAE guidance on all school aspects: student performance; financial performance; effective community engagement; and effective school maintenance mechanisms.
- Identifying professional training needs; developing programs and looking for financial resources to cover those programs
- Ensure the knowledge transfer from teachers who studied abroad to current teachers
- Applying for accreditation through NAQAAE
- Issuing reports on the status of school training and quality

Analyzing the mandate of the Training and Quality Units at school level, the focus of the Ministry of Education here was to ensure on-job-training is offered for teachers. This is in line with the review of literature (see, for example, Blazar and Kraft, 2015, Harris, 2011; Liberman et al., 2012;
Pask et al., 2007) which argues that investing in on-the-job training is key to ensuring ongoing teacher quality and thus enhancing student achievement.

5.2.1.6 Teachers’ first initiative:

Teachers’ first initiative is a project funded by Tahya Masr (Long Live Egypt) fund and was launched in 2016 by the National Presidential Specialized Committees (Teachers’ first, n.d., website accessed March 13, 2017). The project aims at transforming knowledge societies where the student is only receiving information from teachers to learning societies where both teachers and students are interacting with students leading the process (ibid).

Phase one of the project aims at training 10,000 teachers from 1,000 schools over a period of 18 months ending in May 2017 (Specialized Councils, 2016). The project encourages teacher to fill applications forms and submit them through the portal (Teachers’ first, n.d., website accessed March 13, 2017). The project also supports a peer to peer teacher community evaluation, through a cell phone application called Lingo (Specialized Councils, 2016). Teacher’s first program design is co-developed in coordination with Imagine Education in the United Kingdom. Phase two of the pilot aims at reaching to 20,000 teachers (ibid).

The program offers Training of Trainers sessions over three months, including four face to face sessions as well as ongoing support and feedback through Lingo application. Training programs aim at building teachers’ skills around reflection and strategic thinking aiming at creating learning societies in a changing environment that might affect learning (Specialized Councils, 2016).
Although the program is at its launch phase, however it tries to use Internet and Communications Technologies (ICTs) as means to enhance in-class teacher quality. Moreover, it is creating a network of peers to share experiences, challenges and lessons learned. At this stage of the program, it is early to judge it. However one of the challenges reported on by the interview respondents was that the use of internet and accessing the mobile application was not functioning due to the bad network reception at village level.

5.2.1.7 Center for Curriculum and Instructional Materials Development (CCIMD):

The Center was established in 1988 under ministerial decree 192/1988 which was amended by decree 176/1990 adding its specializations and roles and responsibilities as follows (CCIMD, n.d., website accessed March 12, 2017):

1- Overseeing the development of all educational instructional materials;
2- Proposing edits to the existing curriculum;
3- Accrediting curriculum as well as overseeing the production of the curricula.
4- Offering educational alternatives, to ensure the reduction of class sizes and reduce dropout rates. Examples of the educational alternatives include audio recordings; video recordings; remote learning and technological interaction.

The center houses the following departments at central level (Decree 176/1990, 1990): (1) curriculum preparation; (2) design and preparation of educational materials; (3) overseeing the production of all educational materials; (4) information and technology in educational materials; (5) trial and field monitoring of martials the accreditation; (5) quality assurance and accreditation of educational materials (6) training and teacher professional development.
The CCIMD (2011) has developed philosophical frameworks for primary; preparatory and secondary school curricula. Primary school curricula development is guided by children’s right to education; individuality of every child; children’s innovative thinking; children’s argumentative and analytical thinking principles (CCIMD, 2011). The CCIMD framework identifies the need to consult with teachers; subject experts and education quality departments to collect feedback on curricula and proposes curricula edits accordingly.

Although the CCIMD has been taking the lead in developing the readability curricula, yet they have not engaged Arabic instruction teachers in the development of the curricula. Moreover, offering educational alternatives to reduce class sizes has not been sustainable. Data shows and interactive whiteboards were installed in those classes and schools that were either part of the sample receiving funds from donors, or through community resource mobilization efforts.

5.2.1.8 Readability Units:

Readability units were established in 2013 as a result of the work undertaken by the Girls’ Improved Learning Outcomes (GILO) project, which was funded by USAID and co-implemented with the Ministry of Education (RTI International, 2014). The project adapted the Early Grade Reading Assessment (EGRA) tool for primary schools and accordingly in 2010 the Ministry of Education had commissioned an Early Grade Literacy Working Group consisted of CCIMD, Ministry of Education of Education representatives and GILO project team to enhance the curriculum of Arabic instruction in early grades (ibid).
Readability units are established under Ministerial decree 28/2013 at Ministry of Education level and are mandated to build public primary schools professional instruction skills of Teachers around Arabic, Mathematics and English (Decree 28, 2013, article 2). Moreover, the unit is mandated to undertake the following tasks:

1- Preparing a data base of trained teachers in the target subjects
2- Identifying first grade primary school teachers training needs
3- Developing a training plan for teachers in coordination with the Teachers professional Academy
4- Coordination with CCIMD in developing tools to assess and evaluate curricula
5- Financial and technical coordination with projects that work around the same topic
6- Preparing periodic reports on progress on the assessments

The readability unit is established at central ministerial level, with readability planning committees at governorate levels to cascade the tasks down to the local administrative levels (Decree 28/2013, article 3). Although the decree regulates the establishment of the readability planning committees at governorate levels, yet these were not allocated funds to support them perform their roles.

5.2.2 Key joint Government and Donors education quality interventions:

The following section provides an overview of select projects that were funded by the United States Agency for International Development (USAID) focusing on enhancing education quality and co-implemented with the Ministry of Education. The rationale behind the focus on
USAID projects is that their Education support program to Egypt last for more than 35 years with a disbursement of approximately USD 1.3 billion (Office of Inspector General, 2013).

The focus on selecting specific projects is based on projects that were implemented in the past 15 years; that have influenced the Ministry of Education of Education in their strategic planning; and that adopted a humanist approach to education quality focusing on effective schools as a mean to enhancing student achievement.

5.2.2.1 New Schools Program

The New Schools Program (NSP) was implemented by CARE International in Egypt under the auspices and partnership with the Ministry of Education (CARE Egypt, n.d., website accessed March 10, 2017).

The project aimed at: increasing access to school, especially for marginalized girls; enhance teacher quality; increase community engagement and enhance the management of schools through introducing Information and Communication Technologies (ICTs) and improve the curriculum to introduce active learning techniques (Hunt et al., 2010). NSP operated from 2000-2009 (Hunt et al., 2010; CARE Egypt, n.d., website accessed March 10, 2017).

The project trained 2018 teachers on using active learning techniques, whereas trainings were implemented in cooperation with the Directorates Education Development Centers. The first phase of the project adopted a direct training methodology in the form of training of trainers, whereas the second phase adopted a cascading methodology by the phase one trainer (Hunt et al., 2010).
The project has also given a special attention to curriculum development, to ensure active learning and student engagement. Toolkits were developed to support teachers’ use of non-traditional, non-lecturing teaching methodologies (CARE Egypt, n.d; Hunt et al., 2010). Board of trustees were supported in the establishment and election processes. Furthermore, the project tested financial decentralization of schools by giving seed funds to the schools to use in school maintenance, teachers training, amongst others (ibid). The project operated in Beni Suef, Minia and Fayoum governorates.

This project was implemented prior to the PRMIR initiative in Kenya and was reviewed when designing the PRIMR Kenya initiative (Piper et al., 2014; 2015). The design of the project has also used holistic approaches to addressing education quality such as reducing class densities, enhancing teacher quality and improving the infrastructures of schools.

5.2.2.2 Egypt Education Reform Program 1: (ERP1)

The project was funded by USAID and implemented by the American Institutes for Research (AIR), Educational Development Center (EDC) and World Education (WE) (EQUIP 1, n.d., website accessed March 17, 2017).

The project focused on achieving education quality by (1) building teachers and school administrators’ capacity through introducing a trainer of trainer cascade model; and (2) enhancing community participation in the school governance, which included building schools, as well as introducing interactive curricula.
Teacher training were mainly around using active learning mechanisms. Similarly, schools’ Board of Trustees (BoT) were trained on their roles and responsibilities and how to organize themselves (Hunt et al., 2010).

ERP 1 used the developed curriculum under the New Schools Program and re-designed the toolkits, given that the curricula was changed in between the timeframe of the two projects (Acedo et al., 2012). Teachers reported they were not always able to use the interactive toolkits as the curriculum keeps changing in addition to the class density and the continued curricula edits (Hunt et al., 2010; Acedo et al., 2012). The project operated from 2004 through 2010. The project operated in Aswan, Alexandria, Beni Suef, Cairo, Fayoum, Minia, and Qena governorates.

ERP program used a similar holistic approach to improving education quality. The success of ERP was that aimed at institutionalizing these education quality efforts. ERP has worked with the Ministry of Education on establishing the Professional Academy for Teachers (Hunt et al., 2010).

5.2.2.3 Girls Improved Learning Outcomes (GILO):

GILO was implemented by Research Triangle Institute (RTI) and its’ sub-contractors Infonex, World Education, Community and Institutional Development and Keys for Effective Learning (GILO final evaluation, 2014).

The project operated between 2008 and 2013 and aimed at (1) increasing access of girls to schools; (2) improving the quality of teaching and learning; (3) enhancing school governance; and (4) enhancing the organizational and institutional capacity of the Ministry of Education and
the General Authority for Education Building around decentralization (Hunt et al., 2010; GILO final report, 2014).

As part of improving teaching and learning activities, a baseline was designed to assess early grade reading and an assessment tool was development. The tool was developed and implemented in cooperation with the Ministry of Education (GILO final report, 2014, p. 19).

In 2009, the Early Grade Reading Assessment (EGRA) tool was implemented in 58 schools in Fayoum, Minia and Qena governorates. 30 schools out of the 58 were control schools from other districts in the same governorates. The assessment was Egypt’s first large assessment of early grade Arabic reading and writing skills, with 2,878 participating students.

The results indicated that “two-thirds of second graders and one third of fourth graders in the 10 Minia control schools unable to read sample words” (GILO final report, 2014, p.23). As a result, both GILO and Ministry of Education of Education reviewed first and second grades textbooks.

In 2010, GILO also supported the Ministry of Education of Education together with CCIMD in developing a new literacy curriculum in Arabic for early grade schools. In 2011, a post assessment was conducted in the same 28 schools covering 1,200 grade two students after introducing the early grade reading program. The results were significantly higher that the Ministry of Education of Education launched adopted the curricula and launched it in all 27 governorates, and as a result, readability units were established to continue measure progress of reading and writing skills of early grade students (Hunt et al., 2010; GILO final report, 2014).
In 2013, the Ministry of Education requested the support of GILO to develop third grade curriculum as well (GILO final report, 2014).

The project operated in Beni Suef, Minia, Qena and Fayoum and in 2011 the Ministry of Education expanded the curricula use to all 27 Governorates.

The overview of primary and secondary documents of this chapter confirm that achieving education quality and enhancing student achievement in Egypt is hindered by high class sizes; low teacher quality; low public resources and a traditional literacy curriculum that is based on memorizing rather that promoting creative thinking. The review of Government interventions to address these challenges confirmed the Government’s awareness of these challenges and their adoption to corrective actions to address these challenges. The quick overview of Government interventions, either using public funds or through donor funds indicates serious willingness to enhance education quality. The question to why education quality challenges exist, despite the ongoing effort to address them since 2000 is addressed in the following chapter using analysis from semi-structured interviews.
Chapter 6: Challenges to Education Quality in Egypt: Interpreting Interview Data

In this chapter, the researcher employed a thematic analysis approach derived from analysis of the in-depth interviews, the literature review and guided by the focus of the study (Marshall and Rossman, 2011). This approach is an integral part of proving the validity of the research, as triangulation of data is required in qualitative research approaches (Ambert et al., 1995). As discussed in the Methodology Chapter, the researcher uses pseudonyms instead of respondents’ real names as the researcher selected a confidentiality approach to the respondents’ identity.

6.1 Teacher quality and student performance in public primary schools:

Quality of teachers and their competences and ability to manage bigger classes (density wise) has been identified as a key dimension in enhancing education quality. The teacher is considered the main driver of quality that can use innovative solutions to work around the current existing challenges facing public primary schools. A quality teacher uses interactive approaches to engage with students and identifies weak students that may need further support. Moreover, the 2014 constitution as well as the Pre-University Education Strategy 2014-2030 put teachers at the heart of education quality aiming at improving their teaching capacities.

“The “product” and quality of teaching capacity is key, the teacher is the heart of the education process, this is why it is important to focus on the selection criteria of teachers as well as the capacity building trainings they get and the faculties they...
graduate from... If the teacher is brilliant, “Momken yekhlaa men el feseekh sharbat” (he can create syrup out of herring)! If the teacher loves his job, he can inspire kids and identify the good students...Having quality teachers is also key to be able to come up with innovative solutions to handle the oversized classes”

(Mona, Senior Education Staff, Cairo, December 2016)

Mona’s voice sounded quite angry and frustrated at the same time when talking about how important it is to invest in teachers and ensure their competency level before we allow them to teach. The problem of teacher quality has been reported since 2010 when the Ministry of Education issued a decree to freeze the recruitment of teachers. This resulted in hiring teachers on non-permanent contracts, which reached up to 45% of the teachers (Ministry of Education, 2010). These teachers do not go through the assessment and examination process, as they are hired on a trial basis, which highly effects the quality of teaching (OECD, 2015). Mona believes that investing in teachers can enhance student performance, despite other existing challenges, such as class sizes. She believes that if teachers are qualified and have the former experience, they can then better manage classes. “They can divide the students into groups and assign a good student to each group. This is peer to peer learning which is addressed in the readability curricula”, says Mona.

Focusing on ongoing teacher training and development is more important to the Egyptian case than hiring qualified teachers, due to the reality of having teachers on temporary contracts. The Ministry of Education has identified this need to close the teacher quality gap and enhance student achievement. Serious steps were taken by the Ministry of Education to address ongoing
teacher training and development including establishing the Professional Academy for Teachers in 2007; The Training and Quality Departments at school level in 2012; the readability unit in 2013; as well as the teacher’s first initiative in 2016. This is also in line with the literature review conducted on teacher quality which identified ongoing training and on-the-job learning as key entry points to enhancing teacher quality and thus student achievement (see, for example, Goe, 2007; Harris 2011; Piper et al., 2014; Rockoff, 2004). These established units and departments have all a mandated task of training teachers. The extent to which these initiatives were successful in fulfilling their mandate and tailoring training programs and offering on-the-job training is however questionable.

“The fact is that despite the different channels for developing our capacity as teachers, yet these are superficial and not in place. Teachers are trained and undergo the examination as part of the law 155/2007 only for the sake of promotion. The trainings that were effective were introduced as part of the donor funded projects such as GILO and ERP” (Mohamed, village level mathematics teacher, Beni Suef, February 2017).

Mohamed is a mathematics teacher at a public primary school at village level. The school has not been accredited for quality and in his opinion will not be as they suffer from low student achievement rates. Mohamed reiterated that the training and quality units at school levels are not really effective and the assessments they use do not truly assess teachers’ needs for development. Moreover, he mentions that even if the unit is trying to assess teachers and develop their capacity, they do not have financial resources to do so. The same point was
mentioned by a village level school director, who was making a point that he would contact his friends and people he knows to help him conduct teacher trainings without being paid. The school director also referenced that he either pays for the training costs himself, or he asks teachers to contribute to cover the costs of pens and make copies of the training materials.

Interviewed teachers; school directors; and Ministry Officials reported that they do not receive budgets for trainings. They either use their local connections or seek help from NGOs, or they implement the trainings directly and cover the costs from their own pockets. Furthermore, the Quality measurement unit director at department level also indicated that there is a limit to how many times they can invite teachers for the same training over and over again. “Teachers get bored and they stop attending these trainings”, he says.

On the job mentoring for teachers has had a positive impact in enhancing their facilitating and teaching skills and implementing the interactive curriculum. Readability unit staff at local level provide on-the-job assistance as part of their supervision role of the curriculum implementation.

“We have a monthly plan for visiting schools and attending classes to check to what extent the teachers implement the new curricula. We observe the teacher and we also have our own exams to examine the student levels...If we feel the students are not achieving we undertake more monitoring visits and provide on-the-job feedback to the teachers and then re-assess them again” (Menna, readability unit staff at directorate level, Beni Suef, February 2017)
Menna explained her role in enhancing teacher quality, through providing on the job training. She explains that in some cases, where teachers are not responsive to her feedback after several visits, she has the authority to apply a penalty on the teacher by suspending him for three days. In her opinion, for some teachers they do not care, as they are giving private tutoring classes and three days salary deduction is not an amount compared to the amounts they gain from private classes. Menna is the one responsible for assessing schools and dividing them into A, B and C. “A” schools are very weak schools with deteriorated teaching and student achievement levels. These are usually border schools between two governorates and have very limited resources with the community lagging behind with respect to the human indicators. “You will find these schools in villages where no one goes to or knows of”, she says. “A” schools receive more mentoring visits in order to continue improve their education quality, while “C” schools are the ministerial visit schools “C schools are the schools we invite any official visit or ministers to visit”, says Menna.

6.2 The status of class sizes in public primary schools

Class sizes and student-teacher ratios have a direct effect on students reading and writing skills. The bigger the class sizes, the more difficult it is to ensure in class education quality which negatively affects student achievement. This finding is consistent with the reviewed literature section on the effect of class sizes on student achievements. The literature argues that smaller class sizes positively affect reading and writing skills and thus student achievement in subsequent years (see, for example, Biddle and Berliner, 2008; Bosworth, 2014; Finn and Achille, 1990; Krueger, 1999). Interviewed participants identified actual class sizes of 60 students in Beni Suef governorate and reaching up to 120 in Giza. In those cases, teachers identified the need to
remove the chairs and desks to fit all students in the class, which does not allow students to practice their reading nor writing skills, and teachers would have to resort to non-engagement teaching methods to be able to accommodate to the class size.

“In upper Egypt where I used to work, class sizes were 50-60 students; however here in Giza, I have seen schools with class sizes reaching up to 120-130 students!... We used to complain we had 60-70 students in class, now we have 120-130... I used to feel classes are like prisons, students just sit there and do nothing, because they have to” (Mahmoud, Education Field Supervisor, Giza, November 2016).

Mahmoud is describing how condensed classes in poor districts are. He was describing that teachers simply stack desks and chairs next to each other horizontally to sit as many students as possible next to each other. The respondent revealed that the density of classes and student-teacher ratios were one of the main reasons behind a lack of education quality in public schools. The official reports on student-teacher ratios are around 28:1 in Beni Suef governorate and 47:1 in Giza governorate (6. October), (CAPMAS, 2012). The number in Beni Suef has been however reported on to be 46 in the 2014-2015 Yearly Statistics Book issued by the Ministry of Education. These numbers are averages for the whole governorate. The figures referenced by the respondent, especially in Giza are consistent with the results of a study conducted by GIZ (2013) in the same districts. In those districts education quality and class sizes have been identified at the main challenges to education quality “The student density in classes is high, approximately
75 students per class. All schools are close to the residential area except for a primary school” (GIZ, 2013, p.12).

In Egypt, public schools are designed and built by the General Authority of Education Building (GAEB). Although GAEB instruction for building classes indicates a class size of up to 35 students (GAEB, n.d., website accessed March 17, 2017), yet this class size is not a reality in many public primary schools. As a result of the high class sizes, many schools operate in more than one shift, and in doing so they cancel all extra-curricular activities. Schools with stronger administrative staff, resources and quality teachers can overcome the bigger class size challenges by offering creative solutions to solve the problem.

“In some schools, the school is operating in two or three shifts because of the class sizes. We used to take students of third to sixth grades who need to undergo the readability curricula aside during extra-curricular activities, so they do not miss the main subjects or classes. However, we discovered that this is not an option for schools operating more than one shift....We had to be creative and push schools to host summer camps, which are still not enough to address the issue...the attendance rate at summer schools were very low as well, with almost 11%”

(Mourad, Senior Education Advisor, Cairo, March 2017)

The Senior Education advisor has work experience on education programs for the past 27 years. He has taken part in almost all donor funded programs aiming at enhancing education quality in Beni Suef, Minia, and Fayoum governorates. Moreover, he has also trained teachers on interactive teaching methodologies and in engaging students in in-class activities. From his point
of view, he believes that despite the challenges posed by class sizes, yet teachers and school administrators have a bigger role in solving the issue by opening the schools during weekends and in summer vacations to introduce the readability curricula.

High density schools and classes are unlikely to get accredited through NAQAAE. The evaluation criteria for accreditation focuses on safety and security; student achievement rates and the status of buildings. Although class sizes is not part of the evaluation, yet in many schools with bigger class sizes - especially if in poor communities - students’ achievement is directly affected and cases of readability challenges and higher dropout rates are found. This is consistent with the findings from the literature review where it was concluded that attending smaller class sizes, especially in primary schools increases student achievements which is maintained throughout secondary education (see, for example, Almulla, 2015; Biddle & Berliner, 2008; Ecalle et al., 2006; Krueger and Whitman, 2001; ;)

“Schools who have higher class sizes are very unlikely to get accredited. This is because these are schools that exist in poor communities without resources. If they cannot mobilize funds from the community to build new buildings, they will remain the same.....we have not heard of a plan by the government to reach out to these schools...under-achieving schools are most likely to remain so, they are off the radar” (Sanaa, Readability unit, directorate level, Beni Suef, February 2017).

Sanaa is a very active public official, who had served as a teacher for a long period of time. Sanaa speaks from reality and is keen to challenging the current situation. She oversees the readability departments’ work in assessing readability levels at schools and goes for inspection visits herself.
Sanaa is concerned that with the lack of resources, there is not much that can be done. In her opinion, unless the planning process targets these schools, underachieving schools will remain so. Sanaa further explains that she prepares reports on the inspection visits which shares with the Accreditation and Quality Assurance Department. In her opinion, if there is a political will to implement pro-poor policies, these schools can improve their learning environment by building new class to reduce class sizes.

6.3 Reading and writing proficiency Interventions in public primary schools:

Improving reading and writing skills of students in primary schools is a pertinent step in assuring enhanced quality of education. Reading and writing skills amongst public primary and secondary school students is highlighted by the respondents as a major challenge. Respondents working for NGOs revealed that in the schools they have access to, up to 40% of students did not know how to read and write.

“Within the 20 schools we are implementing development projects in Giza Governorate, around 49% of the students we test at 4th grade do not know how to read or write...the readability\(^2\) curricula, which has been adopted by the Ministry of Education, recommends a maximum of 25-30 students-teacher ratio. I do not have this luxury in Giza, with a class size of 120 students” (Mahmoud, Education Field Supervisor, Giza, November 2016).

\(^2\) Readability is defined as: “The level of difficulty a text presents to a reader. Readability can be expressed in terms of sentence length, average word length, numbers of sentences per page, use of effective headings and other graphic devices. Readability is often expressed as age level or grade level” (Wile et al., 2008,p.3).
The readability figures the respondent is referring to is similar to the rates results of official assessments conducted in primary schools. These figures stated that 35% or more of students in preparatory stage do not know how to read and write (see, for example, OECD, 2015; Ministry of Education, 2014; UNDP and MoPMAR, 2015). This respondent relates the readability problem directly to class sizes. The newly established Readability Units were established on the national levels, with representation is governorates. Their main task if monitoring the implementation of the readability curricula that prevents and remedies problems with illiteracy among students in schools (Old Ministry of Education portal, website accessed May 15, 2016). Readability curricula is interactive and introduces phonetics and alphabets at the same time. The curricula was developed as a result of the GILO project and was accredited and launched in 2013.

“There are two types of Readability curricula, preventive and restorative. Preventive curricula is implemented in first, second and third grades. Restorative curricula is implemented in fourth, fifth and sixth grades. The preventive curricula is more effective as it does not require extra arrangements to be implemented and is applied to all students….the challenge is with the restorative curriculum”

(Mourad, Senior Education Advisor, March 2017)

Mourad was explaining how the 35% of public primary schools students who cannot read or write is an underestimated figure. He explains that although this figure is stated in official documents such as Egypt’s education strategy, yet it is not quite accurate. Mourad explains that that this figure was the result of an assessment that took place in 2009 as part the GILO project. The assessment was conducted in Fayoum, Minia and Qena governorates. Mourad explains that the
Early Grade Assessment (EGRA) Tool that used to measure reading and writing skills shows much higher rates, especially in schools in poor areas in Cairo and Giza.

The readability curricula was adjusted by GILO and a team from the Ministry of Education and the Center for Curriculum and Instructional Materials Development (CCIMD). “This is another problem” says Mourad; “the team that worked on the curriculum did not include the Department for Arabic Language Instruction, whereas they are the ones expected to ensure implementation, so there is no ownership”. Mourad continues that the preventive curriculum in a way is more successful because it is taught to all students alike, whereas the restorative curriculum requires extra measures. Mourad continues, “Teachers are reluctant to do the extra work without being reimbursed for it. In many cases even if the teachers are willing to do the extra work without reimbursement, schools do not offer extra-curricular activities either for lack of resources or for operating more than one shift.”

Interventions undertaken by the Ministry such as establishing Readability units, NAQAAE and the Professional Teacher Academy were a result of the donors and INGOs pressures and not based on an actual will for change. A senior level education program staff referenced in relation to discussing INGOs interventions such as community schools and readability programs that,

“The Ministry has understood and adopted the methodology, however if it was wrongly implemented, why was it not implement it correctly? Mostly because the Ministry was not convinced by the methodology” (Mona, Senior Education Staff, Cairo, December 2016)
Mona, who has been working on implementing education programs for over a decade is describing how the Ministry is usually pressured by the donors and the INGOs to adopt the implementation of corrective actions, that are supposed to help solve a problem that already exists. Mona is frustrated that many of the interventions were only successful when the projects were ongoing, and with projects ending the interventions stopped, despite the ongoing institutionalization efforts. Mona is also referring to the rapid change within the Ministry of Education. She explains that the various change of Ministers, each Minister arrives with their own strategy and introduces a change. “This is even more exhausting for the Ministry’s employees”, says Mona.

Students reach up to sixth grade and even preparatory stages without knowing how to read and write. This is a result of decree 313/2011 on automatic promotion of students in primary grades. The decree was issued to reduce dropout rates, especially for girls. Dropout rates remained the same while the literacy level deteriorated.

“Students know I cannot fail them anyway. Even if I did, they will not attend the following year and still get promoted to the following grade....what can the school do?...they have high class densities, few resources and cannot afford to fail the students, so they promote them anyway...”(Mohamed, village level mathematics teacher, Beni Suef, February 2017)

Mohamed is explaining that even when teachers have the intention to work with students and work towards better student achievement, students still do not attend school. He notices this phenomena especially with those who come from poor socio-economic backgrounds. He explains
that they know they will pass anyway, because in many cases the school doesn’t have class sizes or resources to fail them, especially with the decree that allows them to continue up to grade six.

EGRA tool is an important internationally developed test to measure actual students reading and writing abilities. EGRA was developed by USAID and RTI and has been since used in many countries. The Tool can be adapted to fit local contexts. EGRA was seen critical for Egypt as the assessment indicated a high percentage of students who do not know how to read and write. It was adapted to fit the local context and the curricula. EGRA also helps institutions develop literacy curricula based on the analysis of the results, which was the case for Egypt. Respondents reported that recently the EGRA assessment tool was dropped and dictation is now used to assess reading and writing skills.

“The Ministry of Education has decided to stop using the EGRA tool and instead is using a piece of dictation to assess students reading and writing capabilities. As a result, the Ministry is getting better results, whereas the EGRA tool implemented in the same schools gives different results....It seems the Ministry does not want to acknowledge the issue now, despite the fact they were adopting it…it a political pressure? Where they not convinced? This remains a question” (Mourad, Senior Education Advisor, Cairo, March 2017).

Local Readability unit staff confirm that the assessment tool was dropped and dictation was introduced instead. The reason this decision was taken seems not clear to them as they report receiving instructions to do so. NGO respondents believe that literacy challenges among primary school students will start re-appearing and the success achieved so far in first, second, and third
grades using the new curriculum will not be sustained. They believe that the hope for them was the preventive curriculum rather than the restorative one. “Now the students are assessed based on a piece of dictation, which is not an indication of mastering reading or writing”, says Mona, Senior Education Program Director.

Traditional test scores are not an indicator to student achievement. In many cases, teachers pass students either because they are inclined to because of decree 313/2011, or because of favoritism towards families. In some cases, schools and teachers try to post enhanced scores to pass the accreditation of the school.

“I do not trust the schools test scores and I have my own assessment tool. Teachers and schools manipulate test scores in order to increase their student achievement rate, especially if they want to apply for accreditation” (Menna, readability unit staff at directorate level, Beni Suef, February 2017)

Menna uses her own assessment tools which she trusts more than the schools tests scores. She also explains that when a school is applying for accreditation, the government pays a 24,000 Egyptian Pound Fee to NAQAAE. The money is paid even if the school is not accredited. For this reason, the Accreditation and Quality Assurance department uses the help of Readability units to assess reading and writing skills of primary and preparatory school students. Menna explains that schools and teachers might want to show better student achievement, as they get an allowance when the school is accredited. If a school is accredited, teachers receive a two months’ pay equivalent to their basic salary and a three months’ pay for the school director. She mentioned that she prepares reports on the status of every school within her district and knows
where is school stands with respect to applying the readability curricula and the students achievement. These reports are shared with the Accreditation and Quality Assurance Department.

Arabic instruction teachers were not involved in the development of the readability curricula, resulting in a lack of ownership of the readability curricula. Because they were not part of the curriculum development, many of them are reluctant to provide guidance to teachers on how to use the new curricula. Many of the instructors still prefer the old curricula and

“The Arabic language instruction department was supposed to be involved in developing the curriculum. They were not. As a result, the Arabic language instructors are the ones who should be guiding teachers on using the new curricula but they are not able to do so. In order to overcome this, readability unit staff were trained to be able to train teachers on the new curricula and the toolkit” (Mourad, Senior Education Advisor, Cairo, March 2017).

Mourad is explaining the internal conflicts and lack of coordination between the different departments and institutions that are mandated with enhancing education quality. He says he has witnessed the establishment of most education quality initiatives for the past 20 years. His main concern is that usually those departments do not coordinate with each other and more importantly there are internal conflicts between them such as the readability instructors and the Arabic language instructors. The internal conflicts result from the overlap of their mandates. Both have a mandate of mentoring Arabic Teachers. “It is a war of survival of their positions”, says Mourad.
6.4 The status of school resources:

Schools are not sufficient to accommodate the increased number of students that are enrolling yearly into schools, and started working in two and three shifts. With the introduction of a universal free basic education, more and more students started enrolling in schools over the following years (Acedo et al., 2012).

“We used to take students with reading and writing skills aside during the extra-curriculum classes on work with them on the readability curriculum... Now I have schools working in three shifts, they do not offer extra curriculum activities to start with” (Mahmoud, Education Field Supervisor, Giza, November 2016).

The respondent refers to the many challenges he faces in working with education projects. He used to work in another Governorate on readability interventions to enhance students reading and writing skills. Solutions included separating students with such challenges aside during extracurricular activities to work with them and then re-integrate them in their classes. This is not an option now in the schools he is working in in Giza governorate, as the schools operate in three shifts and do not introduce extracurricular activities to be able to operate three shifts. In 1981, during Mubarak’s era, free education was extended to elementary grade to sum a total of nine (9) years of compulsory education (Cochran, 1986; Acedo et al., 2012; OECD; 2015). Furthermore, the 2014 constitution extended the number of compulsory free education to 12 years to cover secondary school. Many studies indicate that there might not be an issue of teachers understaffing, but rather a miss-distribution of teachers whereas some student-
teachers ratios are 40:1 and other student-teacher ratios are 20:1 (see, for example, CAPMAS, 2012; OECD, 2015).

Another respondent mentioned that at one of the schools, due to the understaffing of teachers, the school principle teaches more than one subject at school to be able to cover the gaps. The same respondent mentioned that the issue might be relevant to the distribution of teachers. Many teachers refuse working in remote areas, especially if they have families. He also stated that his wife is a public primary school teachers and that she was working close to their residence yet received a decree of transfer to another school. He explains that they are trying to refute the transfer letter because she needs to work close to her place of residence. This is in line with the student-teacher ratio of 16.1 in some governorates (CAPMAS, 2012), which indicates that it might not be an issue of understaffing but rather miss-distribution of teachers.

Public resources are very few to build new schools to accommodate more classes. With 82% (Ministry of Finance, website accessed March 23, 2017) of the education budget being spent on salaries, remaining amounts are very minimal to cover school maintenance costs and build more classes. Creative school directors and administrators resort to local communities and NGOs to seek funds to build new schools.

“There are no funds to maintain school facilities needless to say build new classes.

I have corresponded with GAEB hundreds of times that we need a new primary school to accommodate the number of students in vein....eventually, I was able to allocate funds to buy a piece of land using local community resources and I’m now seeking approvals from GAEB to build the school....we will also mobilize the
community to cover the costs of building the school.” (Medhat, Village School Director, Beni Suef, February 2017)

Medhat is a very proud village level school director of a school that was recently accredited by NAQAAE. Medhat is convinced the Ministry cannot support building new classes nor schools due to the limited resources. Although the 2014 constitution refers that the education budget should reach up to 4% of the Gross Domestic Product (GDP) and shall gradually increase to reach national standards, yet these figures are in no way sufficient to cover the needed costs. The pre-university education strategy 2014-2030 plans to cover the costs of building new schools from the local community, the private sector and donor contributions. The strategy references a plan to build 1000 schools per year for three years through a private-public partnership initiative (Ministry of Education, 2014, p. 92). The “renovate your school” initiative attracted 500 million Egyptian pounds, and the United Arab of Emirates has adopted building 540 new schools (ibid). Despite that, schools at village level have not heard of these initiatives and their requests for renovation or buying new equipment is usually rejected. Medhat resorts to the local community. He organizes events such “Eftar” during Ramadan to collect donations. He argues that a smart school director will be able to create good learning opportunities and environments for students.

Building new classes and schools is not aligned with the demographic distribution of communities. The current equal distribution of resources is not efficient and results in schools still having high class densities and schools with low class densities.
“The problem is not only the lack of resources, but rather a lack of vision, coordination and planning....how come in Ismailia governorate we encountered a school with 150 students...a whole school operating for 150 students when I have schools Giza with class sizes of 120?!...This shows the Ministry has no clue of the census nor demographic distribution” (Mona, Senior Education Staff, Cairo December 2016)

Mona’s statement was reiterated by other respondents as well, especially village level teachers as well as the Quality and Accreditation Directorate director. They all mentioned that planning for new schools does not take place at the local level. Mona further explained that if the community is aware of their rights and is keen to receiving education quality, then they usually demand for more schools and even donate lands and money to build the new schools. Mona was shocked when she went to inspect a school in Ismailia and discovered that whole school was built to accommodate 150 students. “This is a waste of public funds”, she reiterates. She further explains that the government needs to know the census in each district and each governorate as well as the age distribution, and accordingly decide if they need to build a whole school or a community school.

There are not enough funds to cover for the education quality Accreditation process of public schools. Although NAQAAE was established to push the quality agenda, yet even when schools are ready to undergo the accreditation process, there is not enough funds to cover for the process.
“Teachers used to be trained by the Professional Academy for Teachers, yet this too has become a procedural exercise to get accredited or promoted. The same happened with NAQAAE, it was established to put pressure on schools to enhance their education quality. The design of the process was very good but not sustainable” (Hazem, Quality Assurance Unit at the Accreditation and Quality Assurance Department, Beni Suef, February 2017).

Hazem explains that even when schools are ready to apply for accreditation, they were advised by the Education Directorate that they can only accredit five schools, although he had 20 schools ready for accreditation. Hazem further explains that the MOE does not have the budget to pay the Twenty Thousand Egyptian Pounds to NAQAAE for each school that will be accredited. NAQAAE collects this money to cover their own expenses including the assessment visits and inspection visits, as regulated by law 82/2006.
Chapter 7: Discussion of the findings

The purpose of this research was to investigate the still existing education quality challenges in public primary schools that affect reading and writing skills of public primary students in Egypt, such as: high-density classes; poor teaching quality; the literacy curriculum; and the lack of resources. The entry point of this research argues that there are many interventions that already addressed these challenges. Thus the study worked towards understanding why these challenges still exist. The importance of this study is that it offers new dimensions for policy makers when designing interventions that seek to address education quality challenges. The literature review section argued that in order to achieve education quality and enhance student achievement including reading and writing proficiency, Governments and policy makers need to give attention the following:

1- Reduction of class sizes, as some of the literature recommends 20 students per class, and others recommend a class size of 25 (see, for example, Alumalla, 2015; Ecalle et al., 2006; Finn and Achille, 1990; Krueger 1999; Krueger and Whitman, 2001; Krueger 2002);

2- Offering ongoing training and development opportunities for teachers (see, for example, Darling-Hammond, 2000; Hanoushek, 1991; Harris, 2011; Rockoff, 2004);

3- Enhancing the school environment such as the basic services of water and toilets (see, for example, Chudgar et al., 2015; Murillo & Román, 2011; Uline & Tschannen-Moran, 2008);
4- Adopting literacy curricula that merge both phonetics and alphabet instruction techniques, as well as offering more readability classes for students at risk (see, for example, Piper et al, 2015; Snow and Mathews, 2016; Vaughn et al., 2003);

Moreover, attention was given to the primary stage education quality with specific focus on mother tongue language and mathematics as pertinent step in succeeding in successive years.

Accordingly, the study design aimed at conducting a desk based review to collect and analyze primary and secondary sources that responded to the study questions of the current education quality challenges in Egypt. The desk based review focused on Egypt’s current public primary school challenges; as well as the interventions undertaken by the Government of Egypt represented in the Ministry of Education to address these challenges. Additionally, semi-structured interviews were conducted to further understand the dimensions and complexity of education quality challenges from the view of teachers; education quality practitioners as well as education quality public officials.

The analysis of data concluded that the Government of Egypt is aware of the dimensions of the education quality challenges and has taken steps towards addressing these challenges. The main argument here is that the interventions adopted by the Government were a result of donor and INGOs interventions. The analysis of primary and secondary sources as well as empirical data conclude that most of the interventions adopted by the Government of Egypt were not sustainable post projects ends. The establishment of many of the education quality bodies including the National Authority for Accreditation of Education; the Professional Teacher Academy; the Center for Curriculum and Instructional Materials Development and readability...
units were results of ongoing development projects at the time they were established. The respondents argued that effectiveness of these institutions has deteriorated since the funding coming from these projects has ended.

The Governments’ approach towards enhancing education quality is focused on enhancing the quality of teachers. Several bodies were established to address this issue. The main concern here is that with the multiple entities responsible to develop training materials and train teachers, it is not clear how coordination between the different entities takes place. Example of entities responsible to training teachers are the Professional Teachers Academy; The Quality Assurance and Accreditation Departments; The Training and Quality units at schools level as well as the Readability units at local level. Teachers and school directors indicated a lack of coordination between the entities and receiving the same training topics several times.

The analysis of the data demonstrates that there is an argument for an under-supply of teachers. However, based on comparing the number of teachers to the number students the research concludes that the problem is the miss-distribution of teachers amongst schools. This is a result of teachers requesting to work close to their places of residence in some cases. In other cases teachers do not want to work in schools where students are under-achieving.

Giving attention and resources to conducting on-the-job-training is more important than offering traditional training and capacity building opportunities. Budget allocations need to be identified to offer on-the-job training opportunities and traditional training when needed. The engagement of Arabic language instructors and readability unit instructors in the training process
and in on-the-job mentoring approaches is key to the success of trainings that aim at enhancing readability outcomes of students.

Reducing class sizes to meet the 35 class student sizes as instructed by the General Authority for Education Buildings (GAEB) is an important step to enhance student achievement. A 35 students' class size is still more than the 20-25 ratio recommended globally. Reducing class sizes does not necessarily require building more classes nor schools. The results of the empirical study as well as the review of primary and secondary sources both confirm there is a miss-distribution of resources. There is a need to align the annual plans with the national census, or at least adopt pro-poor policies. This is an important step to avoid building schools in under-crowded areas and thus channel these funds to areas with overcrowded schools.

A cross-cutting dimension affecting education quality is the funding of education quality programs, especially the funding that is allocated in public resources. The Government of Egypt adopted policies that aimed at reducing class sizes; hiring more teachers; enhancing teacher instruction skills as well as developing teaching kits to support interaction instruction methods. These interventions were found to have sustained only during donor funded projects and have not continued or have deteriorated quality wise post project ends.

Funding of the programs identified in the strategies remains unclear. The Pre-University Education Strategy of 2014-2030 identifies potential sources of funding in their plan and references the need to push for public-private partnerships. Nevertheless, concrete indicators to measure progress have not been developed. Currently, the pre-university education budget
for the fiscal year 2016/2017 is allocated at 4% of the total Gross Domestic Product (GDP), with 85% allocated to cover salaries.

To date, the Ministry of Education funding practices is geared towards an equal distribution of funds policy, rather than a pro-poor policy that targets poor communities with additional resources. As a result of this, poor quality schools with low students’ achievement rates and high dropout will remain the same unless the Ministry maps them out as part of the pro-poor policies. Though the Pre-University Education Strategy of 2014-2030 sets an objective of giving more focus to marginalized and poor communities, yet this has not been translated into action plans.

The Ministry of Education needs to revisit the amounts required to be paid for quality accreditation. As referenced earlier, the amount to be paid for NAQAAE for primary schools to be accredited is Twenty Thousand Egyptian Pounds. The analysis of the findings indicated that although district level public education quality authorities have identified schools that are ready for accreditation, nevertheless they received instructions to accredit fewer schools. This instruction was due to the lack of funding to apply for accreditation. The accreditation process is important as it offers updated assessments of all schools that is a result of both a self-assessment and external evaluators. The assessments are an important step to developing capacity building plans that aim at improving the quality of public schools.

Laws and decrees regulating the education process need to reviewed, especially those that are not enacted or enforced. An example of decrees that have had a negative impact on the education quality is decree 313/2011. The decree allows students to get automatically promoted
to the following year after failing a primary grade twice. As a result of this, students reach up to sixth grade without attending schools and without passing on exams. Similarly, other laws and decrees need to be reviewed to identify the overlap of mandates between the different education quality entities and to regulate the process of interaction between them.

Introducing readability curriculum as a result of the GILO project in 2013 has proven to be successful as indicated by the results of the post assessments conducted using the EGRA tool. The Ministry of Education needs to re-visit the decision issued by the former Minister of Education of replacing the EGRA assessment tool with a piece of dictation. Respondents confirm that using a piece of dictation as an assessment tool to identify the level of reading and writing proficiency has resulted in higher proficiency rates results than the EGRA tool results used in the same schools with the same students.

Additionally, linking student achievement to teacher promotion and salary increases, while using accurate assessment tools, is a solution to overcome the challenge of poor in-class instruction techniques. Poor in-class instruction is a result of teachers focusing on private tutoring to increase their income.

Furthermore, ongoing review and edit of the readability curriculum needs to be conducted, while ensuring the inclusion of different relevant actors in the process. These include teachers who teach the curricula, Arabic language instructors who mentor teachers, as well as the Center for Curriculum and Instructional Materials Development. Their involvement is critical to ensure the ownership and usage of the curricula. Primary collected data argues that teachers
resort to the traditional teaching techniques that focuses on alphabets because they do not understand the new curricula nor the importance of abiding by it.

7.1 Conclusion:

This research aimed at investigating the missing link between the education quality interventions to address education quality challenges, and the still exiting challenges. Specific focus was given to reading and writing proficiency amongst public primary students. Education quality challenges in Egypt were flagged out by former research, including the Ministry of Education. The Ministry of Education with support from International donors have been working towards addressing these challenges. In investigating the education quality gap, sub-questions were introduced aiming at responding to the main study questions. The sub-questions focused on mapping out existing education quality challenges; existing education quality interventions led by the Government and the Ministry of Education; and how the Government of Egypt can enhance its efforts to close the education quality gap.

The review of literature has had one shortfall, which is that the most peer-reviewed and well known studies were conducted in the United States of America. The researcher was interested in reviewing similar studies from other countries to identify the extent to which the findings were relevant. The review of literature on the correlation of teacher quality; class size and student achievement in other countries, such as Kenya, France and Saudi Arabia, found similarities to the findings in the United States. The effect of school resources on student achievement has had different results in developing countries from those in developed countries. The main argument in developed countries was that schools facilities rather than infrastructure
effect student achievement and thus reading and writing. In contrary, other research from
developing countries argue that school facilities have a direct effect on student achievement. The
review of such best practices has helped the researcher in further narrowing down the focus of
the study and identify the key areas that affect readability amongst public primary students.

The importance of this research is that it is offering recommendation on how to enhance
the already existing education quality interventions, rather than offering new ones. Although the
research employed a qualitative approach to understanding the problem, yet the researcher also
used primary and secondary sources to validate the findings from the empirical study.

The study concluded that the Government has been leading its education quality
interventions under support and pressure from donors and International Non-governmental
organizations who have been engaged in enhancing education quality. These interventions were
implemented in cooperation with the Ministry of Education, which resulted in issuing laws and
degrees as well as establishing institutions to support the implementation of these interventions.
These laws and regulations as well as institutions have not been enforced in many cases.
Moreover, the main crosscutting issue affecting the sustainability of these interventions are of
public funding nature. The current budget for Education is not sufficient to maintain these
interventions, despite the recent increase of the education sector budget in the 2016-2017 fiscal
budget.
7.2 Recommendations:

Based on the analysis of the research findings, the following recommendation to enhance the education quality interventions and thus reading and writing skills are introduced in this section.

7.2.1 Education quality public funds:

It is recommended to increase education quality funding from public funds to ensure sustainability. Until this can be achieved, the plan to resort to private funding and donors can be used but has to have a clear phase out plan. Moreover, a pro-poor funding program needs to be introduced to ensure that poor quality schools can actually enhance their performance. The current education budget is set at 4% of the GDP with 82% of the budget spent on salaries (Ministry of Finance, website accessed March 23, 2017). The pre-university education strategy identifies donors and the public-private partnership as additional resources to implement education programs that focus on enhancing education quality and increasing accessibility of schooling. These type of interventions have proven of not being sustainable.

There are at least three different entities that provide either traditional training opportunities or on-the-job training for teachers. These entities do not have enough funds to conduct these training and accordingly they have become entities that house staff that are unable to perform their mandates, as most of their budgets is spent to cover salaries.

Similarly, enough funds need to be allocated to ensure the accreditation of schools through NAQAAE. NAQAAE education quality assessments and accreditation are important steps
towards enforcing education quality. NAQAAE receives the accreditation amounts to cover their own expenses. This is a good approach to ensure their sustainability. The amounts might be worth revisiting to check if they can be reduced to ensure a smoother accreditation process.

7.2.2 Readability curricula:

It is important to go back to using the EGRA readability assessment tool that supports assessing reading and writing proficiency. Readability challenges have been identified as of the main outcomes of the poor education quality by the Ministry of Education itself. Interventions including establishing a new literacy curricula for primary school and new testing measures were not sustained. Currently, EGRA assessment tool has been replaced by the Ministry of Education with a dictation piece. As a result of this, teachers are inclined to drop the interactive learning techniques. The new assessment tool might result in the resurface of readability challenges in the coming period.

Similarly, and in order to continue implementing the interactive curricula, teachers, especially Arabic Language instruction teachers have to be involved in the design of the curricula in order to ensure their buy-in. Arabic instructors are the ones offering mentoring to Arabic teachers on the curricula. They need to understand and have the ability to implement interactive methodologies in order to ensure Arabic teachers also abide by the curricula.

7.2.3 Laws and decrees hindering education quality:

A review of all laws and decrees that affect education quality needs to be conducted to ensure these laws do not contradict each other. Moreover, a study on the effect of decree 313/2011 on reducing drop-out rates needs to be conducted. It is argued that the decree affected
education quality negatively in comparison to the achievements in reducing drop-out rates. Teachers confirmed that they do not have any authority over students because students know they will pass the year anyway. Similarly, there is a need to enforce Ministerial Decree 592/1998 on prohibiting private lessons by the education staff. Clear sanctions for teachers who offer private lessons need to be identified. Currently, the decree only stipulates disciplinary sanctions without mentioning what exactly they are.

A revision of the mandates of the different entities responsible for education quality needs to be conducted. Ensuring a diving of tasks between the different entities and ensuring coordination between them is an important step towards ensuring their efficiency.

7.2.4 Education quality needs assessment plans

It is crucial for the Government to identify the status of education quality in schools and develop a plan to address education quality challenges. Additional attention needs to be given to schools that are located in poor communities. Having a needs assessment plan for schools in marginalized communities can support the adoption of pro-poor funding policies recommended earlier in this section.

7.3 Areas for future research

Although this research used empirical data from Beni Suef, yet future research can be employed to validate the findings from other governorates. Cross-referencing the findings with other governorates will be of value for future research to make a stronger argument about the findings. Moreover, for the purposes of this research, parents’ feedback were not collected. Future research can involve interviews with parents and schools Boards of Trustees to include their
feedback. Similarly, one of the recurring trends that were not assessed for the purpose of this research is the aid effectiveness or sustainability of projects post project ends. This can be left for future research to document to what extent these interventions were successful when donor funding is non-existent.
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