

QATAR UNIVERSITY
COLLEGE OF ENGINEERING
ANALYZING THE RELIABILITY AND EFFECTIVENESS OF
PUBLIC SCHOOL EVALUATION SYSTEM IN QATAR

BY

A PROJECT SUBMITTED TO THE FACULTY OF
COLLEGE OF ENGINEERING
IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF SCIENCE IN ENGINEERING MANAGEMENT

JUNE 2016

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ABSTRACT

In 2004, Qatar government launched a huge education reform, Education for New Era (EFNE) which introduced changes to the K-12 educational system. The reform model suggested by Research and Development Cooperation (RAND) include three new government institutes; the Supreme Education Council (SEC) – now turned into the Ministry of Education and Higher Education (MoEHE) –, the education institute, and the evaluation institute. Although the two main institutes have a lot of interactions in their roles and duties related to public school evaluation system (PSES) they have a lack of systematic communication towards the whole PSES.

The aim of this project is to analyze the PSES in terms of its reliability and effectiveness under the responsibility of the evaluation institute (EVI). The study focuses on the accuracy and consistency of the process of evaluating a school and studying the after evaluation action plans that enhance school monitoring of improvement resulting from evaluation feedback to proven system effectiveness.

The project results shows lacking in reliability of school evaluation system in terms of its accuracy in areas of school evaluation, the use of QNEA results, and the process of evaluation. The reliability of the PSES is criticized in its consistency of practice were the process lack consistency in terms of common understanding of areas and standards that schools are evaluated according to. The effectiveness of the

PSES is criticized as it does not provide a systematic approach to use the evaluation results for school improvement

It is recommended that EVI considers a holistic evaluation system that combines school evaluation, school self-review, school leaders' evaluation, the evaluation of school teachers and students' assessments together so that they can insure its reliability. To obtain a higher level of reliability of evaluation system delivery and outcomes of PSES should be a result of a collaboration between EDI and EVI to solve issuers related to contradictions in authorities, responsibilities, and conclusions. On the other hand, the effectiveness of the school evaluation system could be improved by enhancing the monitoring and evaluation system and developing a system that manages implementing changes within the school.

Keywords: school evaluation system, reliability, effectiveness, self-school review.

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Dedication

This project work is dedicated to my supportive family, who encouraged me throughout the whole master degree studies. I also dedicate this project to Qatar, which I believe this project will contribute to its developments and creation of knowledge base economy.

Acknowledgment

I had enjoyable moments doing this project, and if we have more time, I would be pleased to develop the project for more advanced levels. I would like to take this opportunity to express my gratitude and deep regards to the project supervisor Dr. Tarek Y. El-Mekkawy for his exemplary guidance, monitoring and continuous support throughout the course of our project. The blessing, help and guidance given by him time to time shall carry me a long way in the journey of life on which I am about to embark.

I would also like to thank everyone who participated in the execution of this project, Dr. Asmaa Alfadala - Director of Research at the World Innovation Summit for Education (WISE) -, for her comments, suggestions and encouragements that help me to accomplish the project. In addition, I would like to thank and appreciate the time and information given to me by the school principals, school consultants and all school stakeholders who I interviewed.

Lastly, but yet importantly a special thanks to my family. Words cannot express how grateful I am to my mother, father, brothers, sisters and friends for their continuous support and encouragement without them this project would have not been possible. Your prayers for me were what sustained me this far; thank you so much.

Abbreviation

RAND	Research and Development (non-profit research organization)
EFNE	Education for a New Era
SEC	Supreme Education Council
EDI	Education Institute
EVI	Evaluation Institute
MoEHE	Ministry of Education and Higher Education
SRC	School Report Cards
EYE	Early Years Evaluation
QCEA	Qatar Comprehensive educational assessment
QCSS	Qatar Comprehensive School Survey
TSR	Triennial School Reviews
QNSA	Qatar National School Accreditation
NPSFT	National Professional Standards for School Teachers
NPSFL	National Professional Standards for School Leaders
NCLB	No Child Left Behind
SNED	Subsidized Schools Performance Evaluation System
QAI	Quality Assurance Inspection
LAOS	looking at our schools
ISO	International Organization for Standardization
ITU	International Telecommunications Union
OECD	Organization for Economic Co-operation and Development
NAE	The Swedish National Agency for Education

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Chapter 1. Introduction and Background

1.1. Background

Before 2002, Qatar had fairly developed education system but in some parts it fails on producing high-quality outcomes, and was traditional, rigid, and outdated system which did not provide students with 21st century skills. Therefore, the leadership of Qatar had decided to invest in its K-12 education because it views education as the key to the nation's economic and social progress. Qatar's government was then considering possible reform options with RAND, research organization, which has the task to assess the education system. The results of the assessments reveal several issues as follows:

1. Highly centralized system,
2. Limited strategies for evaluation and monitoring,
3. Lack of communication among educational stockholders,
4. Rigid top-down decision making, and
5. Over emphasis on rote learning which heavily depends on memorization technique based on repetition and ignoring critical thinking.

After pointing on different education problems in the existing system RAND presented three specific system option of changes to Qatar's leadership that include the following (Brewer, Augustine, Zellman, Ryan, Goldman, & Ryan, 2007):

“(1) a Modified Centralized Model, which upgraded the existing, centrally controlled system by adding or improving the basic elements; (2) a Charter School Model, which decentralized governance and encouraged variety through a set of schools independent of the Ministry and which allows parents to choose whether to send their children to these schools; and (3) a Voucher Model, which offered parents school vouchers so that they could send their children to private schools and which sought to expand high-quality private schooling in Qatar.”

The first option was rejected by the Qatari leadership because they experience a failure in similar reform attempts in the past. Third option seems risky and hence they decided to go for the second one.

After the approval of the second option RAND company refined the basic design of the reform by presenting a detailed plan for the educational reform implementation. It has been specified that for the purpose of starting the EFNE reform there would be four new institutions, some are permanent and others are temporary. Those new institutes would facilitate the change in the authorities of parties within the system. Those institutes are as follows:

- 1) Supreme Education Council (SEC). The SEC institute has the full responsibility of setting the national education policy. This institute would be permanent which composed of members representing the end users of the education system.
- 2) Education Institute (EDI). The EDI would be responsible of the work of the new independents schools, starting form contracting going through any

supports they required in conducting their operations. In addition, they held the full obligations towards allocating resources to the independent schools developing national curriculum standards for grades 1– 12 in four main subjects— English, Arabic, science, and mathematics. On the other hand, EDI is responsible to train teachers in schools and develop programs of training for them. They also supply schools with workforce who are able to teach in accordance to the national curriculum. This institution would also be permanent.

- 3) Evaluation Institute (EVI). The EVI would be responsible of monitoring all student and school performance. EVI also design and administrate the national tests for grades 1– 12 for the four main subjects — English, Arabic, science, and mathematics. In addition, they will be responsible to conduct questionnaire for all school stakeholders, such as students, teachers, parents, and principals to produce the annual “school report cards” to be published to the whole community. EVI will also manage all data related to the education system by performing special studies on the schools. This institution would also be permanent.
- 4) Implementation Team who has the role and duty to assist in establishment of the other institutions and to perform oversight, coordination, and advisory functions during the educational reform. This team is working temporarily until they insure the reform is taking place nicely and correctly.

To this end, the Father Emir, His Highness Sheikh Hamad Bin Khalifa Al-Thani, announced a sweeping education reform in 2002 – Education for a New Era (EFNE) – to enhance educational quality. After the announcements of EFNE in 2002, the Supreme Education Council (SEC) was established and opened the first cohort of independent schools in 2004.

In February 2016, the Amir of Qatar, Sheikh Tamim Bin Hamad Al-Thani revised all ministries; name different ministers in some ministry, combine some others, cancelled the Supreme Education Council (SEC) and Supreme Council of Health and replace them with the ministry of education and the ministry of public health.

1.2. Research Statement

The School evaluation system is a tool to guide the practice in schools, therefore if there is misunderstanding of standards and the way to achieve them there will be a bad practice which will affect the educational system as a whole, its outputs and its value. Therefore, the way schools are evaluated will trigger the way they perform, because of that the practice of school evaluation system in Qatar is tackled in this project.

1.3. Objectives

This project aims to:

1. Study the current public school evaluation system (PSES) in Qatar.
2. Provide an overview of the practice in evaluating a school worldwide.
3. Examine the reliability of the PSES in Qatar.
4. Judge the accuracy of the PSES in Qatar.
5. Understand to which extent does the outcome and conclusion of PSES reflects the school's quality in Qatar.
6. Study the effectiveness of the current PSES.

1.4. How the report's topic is related to engineering?

Industrial and system engineering is described by the institute of industrial and system engineers as “Industrial and systems engineering is concerned with the design, improvement and installation of integrated systems of people, materials, information, equipment and energy. It draws upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design, to specify, predict, and evaluate the results to be obtained from such systems”.

In general, industrial engineering is concerned with the design and the implementation of production and service systems, where industrial engineer analyzes those systems for the purpose of an efficient and effective system that that produce

goods and provide services. The bridge between management goals and operational performance is the concern of the industrial engineer.

As industrial and system engineer we are interested in looking at the interaction of different components in a system which is in this project the interaction between different evaluation systems in the schools. In addition, a literature review has been made to be able to analyze the current system and benchmark the practice in Qatar towards evaluation systems worldwide. On the other hand, evaluation system in education is considered as a tool to insure quality of the educational service provided by the school, so it covers the topics of quality assurance and quality management.

1.5. Report Overview

This report consists of six chapters including this chapter which gives an overview of the report topic, its background and objectives. Chapter two gives an overview of existing literature related to the topic of school evaluation systems. The research methodology used in the project is discussed in chapter three. In chapter four, the current PSES in Qatar is analyzed in details. After analyzing the system, chapter five discusses the results analysis. Finally, chapter six provides a summary of findings, recommendations, and draw conclusions in addition to discussing opportunity of future research work.

Chapter 2. Literature Review

2.1. Literature

In order to improve the school evaluation system, it is required to understand it from different angles and view it from different perspectives. This is done by reviewing many papers in the same field. The literature is divided into three parts: first, a review of different approaches to school evaluation under different school systems; second, a review of different approaches to test the reliability of school evaluation systems; finally, a review on papers assessing the effectiveness of school evaluation systems.

2.1.1. Approaches to School Evaluation System

In this section a number of papers were reviewed to scan the existing practices of school evaluation system and understand the available approaches. (Stufflebeam, & Webster, 1983) have outlined 13 different types of evaluation approaches. All the approaches are differing in their purpose, method, resources, time, and level of efforts. The selection of the evaluation approach depends on the objective, questions and specific nature of the stakeholders' interest. A mix of multiple different approaches can be considered to design and implement an evaluation system.

Under the act of No Child Left Behind (NCLB) (Thornton, Shepperson, & Canavero, 2007) introduces a framework of evaluation system in schools which uses

an evidence-based practices and program evaluation data to guide decisions about which interventions and/or programs to implement for the purpose of improving student achievement. The authors of the paper claim that any self-evaluation conducted in the school has positive effects on school development, were an improvement of evaluation awareness in observed among teachers and it result an involvement of more stakeholders in school evaluation. The research also emphasizes that to get a beneficial transformation of school the relationship of system thinking, program evaluation and organizational learning triangulate should be considered.

School evaluation system is differing from country to country, for example in Chile according to (Casassus, 2001), the evaluation system evolves with the time and consists of four different components as follows:

- The academic aptitude test
- The system for information and evaluation of education quality
- The subsidized school's performance evaluation system (SNED)
- A system for evaluating education professionals individually.

SNED is administered from the central ministry. The creation of a system of financial incentives and the recognition for staff in the best-performing primary schools is the aim of SNED. SNED focuses the below six areas to understands the school performance levels according to them:

1. Effectiveness: which is represented by the students' academic performance.

2. Improvement: observe any different in the academic achievements of the students.
3. Initiative: the capacity of the school to incorporate educational innovations and obtain the support of external agents in educational work.
4. Improvement: teachers working conditions of their satisfactory functioning is to be improved.
5. Equality of opportunity: Focuses on the school willingness of the inclusion of students with learning difficulties and special needs. Insure school access and the management of students' attendance.
6. School community including teachers and parent integration and participation in educational programme.

(Wong, & Li, 2010) conducted a local study in Hong Kong, they suggested that an effective quality-assurance mechanism should maintain a balance between two types of evaluation, which are the school self-evaluation and the external evaluation or inspection. In this study authors collected the data for different variable as follows:

- Dependent variable (performance in Learning and Teaching) and
- Independent variable (self-evaluation performance).

Those data were obtained by recoding the qualitative descriptions in the QAI reports into quantitative scores based on PI criteria. The authors conclude that it is crucial to find a means for establishing a constructive dialogue between internal and external evaluations. This dialog should work as a basis for their coexistence, for

example the external evaluation should be a partner for dialogue rather than an object for rejection.

(Alkin, 2013) sees differences between the models of prominent evaluators based upon their relative emphasis on methods, value, or use (see Table 1). Evaluators tend to follow a model that makes sense to them intellectually, but should be prepared to vary their approach based on the purpose of the evaluation and program context.

Table 1. Different approaches of methods-, use- and value-focused evaluation theories

Key features	Methods-focused evaluation	Use-focused evaluation	Value-focused evaluation
Key questions	What is the program's casual impact on desired outcomes?	What do decision makers need to know to improve program usefulness?	How do program processes affect the relative standing of different groups?
Evaluation focus	<input type="checkbox"/> Intended objective or outcomes <input type="checkbox"/> Program theory <input type="checkbox"/> Summative evaluation	<input type="checkbox"/> Process <input type="checkbox"/> Intended use <input type="checkbox"/> Organizational learning and capacity building <input type="checkbox"/> Formative evaluation	<input type="checkbox"/> Process <input type="checkbox"/> Unintended outcomes <input type="checkbox"/> Power relationships <input type="checkbox"/> Equity and social justice
Who primarily judges programs benefits	Evaluator	Decision Maker	Public/Society
Common methodologies	Post-positivist	Pragmatic	Constructivist

and methods	<input type="checkbox"/> Controlled experiments where possible <input type="checkbox"/> Outcome measurement <input type="checkbox"/> Quantitative data	<input type="checkbox"/> Multiple sources of evidence <input type="checkbox"/> Interviews/focus groups <input type="checkbox"/> Quantitative and qualitative data	<input type="checkbox"/> Critical or participatory methods <input type="checkbox"/> Action research <input type="checkbox"/> Qualitative data
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2.1.2. Reliability of School Evaluation System

In this section the focus was to review literatures that discuss the reliability of school evaluation system, reliability in this context means the measure of how far can we trust the information provided by the school evaluation system, in other words is the evaluation reflect the actual practice? To analyze the reliability of the system a review of system consistency and system accuracy is discussed. This section is more concerned about the process of the school evaluation system rather than its impact.

(Blok, Slegers, & Karsten, 2008) has a study on school evaluation that focuses on the process of the evaluation itself rather than focusing on the impact of it on school leaders, teachers, students, and learning outcome. In this study, it is assumed that holding schools accountable for attaining high standards will trigger schools to improve their quality. It also proven by research that schools need time and skills to collect and analyze self-evaluation data, to formulate valid conclusions, and to use the results for school improvement. Around a huge debate around assuring quality in school system a balance between internal and external school evaluation system is considered. The authors identified three underlying mechanisms to tackle the transformation between internal and external school evaluation system. The low validity level of school self-evaluation suggests that external inspection is an important function to motivate schools and organizations to undergo self-evaluation.

According to (O'Brien, McNamara, & O'Hara, 2015) the role of self-evaluation is essential in schools in Ireland under the new approach to engage schools to promote it. After school self-evaluation process was implemented they found limitations such as limited capacity of the schools to implement the evaluation and the lack of external support to foster the self-evaluation process. Recently the practice has changed in Ireland as a result of efforts attempt to ensure the consistent and regular implementation of self-evaluation. Thus, they provide their schools with external supports to enhance process and product outcomes within the expected timeframe and resources, therefore this attempt was successfully obtained.

2.1.3. Effectiveness of School Evaluation System

In this section the focus was to review literature that discuss the effectiveness of school evaluation system, effectiveness in this context means the measure of how far the information provided by the school evaluation system is useful and helpful for the purpose of school improvements. This section is more concerned about the impact of the school evaluation system rather than its process.

In South Africa (Clercq, 2007), considering their long history of unfair and illegitimate school inspection people were suspicious of any claims to the advantages of school inspection or monitoring. Prior to 1994 school self-evaluation was not even acknowledged in South Africa by the Departments of Education, but nowadays they are at a stage of accepting it as the logical starting point for any evaluation process, which is followed thereafter by the external evaluation. Considering all pf this they

are at a stage where they knew that this linear approach of evaluation is proven to be less effective thus the importance of integrating internal and external evaluation should be considered.

Research conducted by (Peng, Thomas, Yang, & Li, 2006) consider value added measure which they define as an effectiveness measure that is relative to the unit set. Authors views teachers as the implementing agency of test-based school accountability therefore teacher must understand evaluation feedback data and be able to draw conclusions for future improvements. On the other hand, the authors argue that pupil progress and the analysis of different aspects of their effectiveness is essential to examine by using the pupil-level data of the availability and analysis of longitudinal individual. They believe that this type of data analysis would help in measuring value added in the self-evaluation context since it works as its baseline.

(Dorcak, 2011) stated that developing individual characteristics such as creative thinking skills, learning skills and transformative thinking skills should be considered when authorities aim in increasing the innovative performance of a country and in the educational process in particular.

In Ireland they develop and initiatives to prompt school self-evaluation called from looking at our schools (LAOS). According to (McNamara, & O'Hara, 2012) LAOS was necessary to promote the concept of self-evaluation and set out the expectations for best practice in schools. LAOC did not provide the schools with resources and tools to insure their contribution in self-evaluation which aims to a spectrum with accountability at one end and teacher professional development at the

other. When it comes to the implementation the authors believe that generating the type of data necessary to create the robust model of self-evaluation is not possible considering the capacity of the Irish Education system.

(Martín, & Bellegem, 2012) introduced a structural definition of the value-added of school j is given as follows:

$$VA_j = \frac{1}{n_j} \sum_{i=1}^{n_j} E(Y_{ij} | T_{ij}, \theta_j) - \frac{1}{n_j} \sum_{i=1}^{n_j} E(Y_{ij} | T_{ij}).$$

This equation is consisting of different terms which can be defined as follows:

- The first term: an average of the expected score conditional on observed explanatory factors and the school effect.
- The second term: an average of the expected score conditional on the observed explanatory factors only.
- This last term: integrates out the school effect and, consequently, can be interpreted as the expected score of a student who would be treated by an average school.

In this model the average school considered by the observable explanatory factors which means the following:

- Positive value added: the school can take the students beyond what they have achieved previously.
- Negative value added: the school can take the students below what they have achieved previously.

Chapter 3. Research Methodology

3.1. Definition and Terminology

In this section, the used terminologies in the report are defined. Most of the definitions are taken from an expert institution and committees of the field of educational evaluation.

3.1.1. System

“A system is a group of interacting, interrelated, and interdependent components that form a complex and unified whole.” A system’s overall purpose or goal is achieved through the actions and interactions of its components. A system’s characteristics are as follows:

- System contains numerous subsystem.
- System is also part of subsystem.
- Interconnections between system components are essential for optimal results.
- System is loosely coupled system.

3.1.2. Evaluation

Evaluation is defined as a systematic determination of a subject's merit, worth and significance, using criteria governed by a set of standards. Evaluation system can be considered as a public management tool that helps stakeholders and administrators to obtain an idea and/or feedback about the performance of the system. School evaluation in general can help serving the following aims:

- *School accountability*: which is public process, and that is why it is consider as a strong purpose, but on the other hand there is a potential for the suppression of shortcomings rather than addressing them as schools.
- *School improvement*: this is where the growth and the improvement of schools is facilitated. For the purpose of school improvement, shortcomings are more readily diagnosed and addressed.

Those two purposes of evaluation which appear to have perceived tension in between need to be seen as inclusive of rather than separate from each other. School evaluation system should consider containing system performance indicators on the input, process, output, and outcome of the school system.

3.1.3. Standards

ISO standards define standards as “A document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose.” In the context of school evaluation, standards are related to pre-defined criteria by which school would

be assessed in accordance. Standards can be further defined and detailed by the use of performance indicators.

3.1.4. Reliability

Reliability is defined in International Telecommunications Union (ITU-T) recommendations E.800 as “The ability of an item to perform a required function under given conditions for a given time interval.” In the context of school evaluation system, reliability relies on the validity and reliability of the information provided about the indicators of the evaluation framework. To define reliability further, accuracy and consistency is defined as follows in the context of school evaluation system:

3.1.4.1. Accuracy

In dictionary accuracy is defined as the condition or quality of being true, correct, or exact. In the context of school evaluation accuracy is meant to define at what extent the school evaluation system reflects and accurately define the quality of school performance.

3.1.4.2. Consistency

In dictionary consistency is defined as the agreement, harmony, or compatibility, especially correspondence or uniformity among the parts of a complex thing. In the context of school evaluation consistency is meant to define at what extent the school evaluation system is conducted the same everywhere by every

personnel. On the other hand, it is a measurement of evaluators understanding of the same standards and indicators.

3.1.5. Effectiveness

Effectiveness is the capability of producing a desired result. When something is deemed effective, it means it has an intended or expected outcome, or produces a deep. In the school evaluation system, effectiveness relies on the measure of how the system serve it intended purpose of school accountability and school improvement for overall educational benefit.

3.2. Method Analysis

After reviewing the literature, it has been observed that different approaches are used as school evaluation system for the purpose of school autonomy and the improvement of education system. Reliability and effectiveness of this evaluation systems are also discussed by different researchers. The analysis of PSES in Qatar is tackled in the next chapter by first defining the key features of the system with the emphasis on reliability aspect considering different literature. Then discussing how PSES is articulate with other evaluation system in education to insure its effectiveness and impact for the purpose of school improvements.

Data were gathered through observations of the evaluation system in one school, interviewing school principals, school consultants, and analysis of documents

issued and used by the EVI. For a comparative purposes of the practice in Qatar and the practice worldwide, an Organization for Economic Co-operation and Development (OECD) database related to school evaluation practice is used.

Chapter 4. Analyzing Public School Evaluation System in Qatar

This chapter discusses the parts and key features of the PSES under the school evaluation office of the Evaluation Institute (EVI) in the Ministry of Education and Higher Education (MoEHE).

4.1. MoEHE organizational structure

As discussed earlier SEC turned into MoEHE, therefore, a new organization structure is defined and as illustrated in figure 1 and figure 2.

وزارة التعليم والتعلم العالي

الخريطة التنظيمية لوزارة التعليم والتعلم العالي

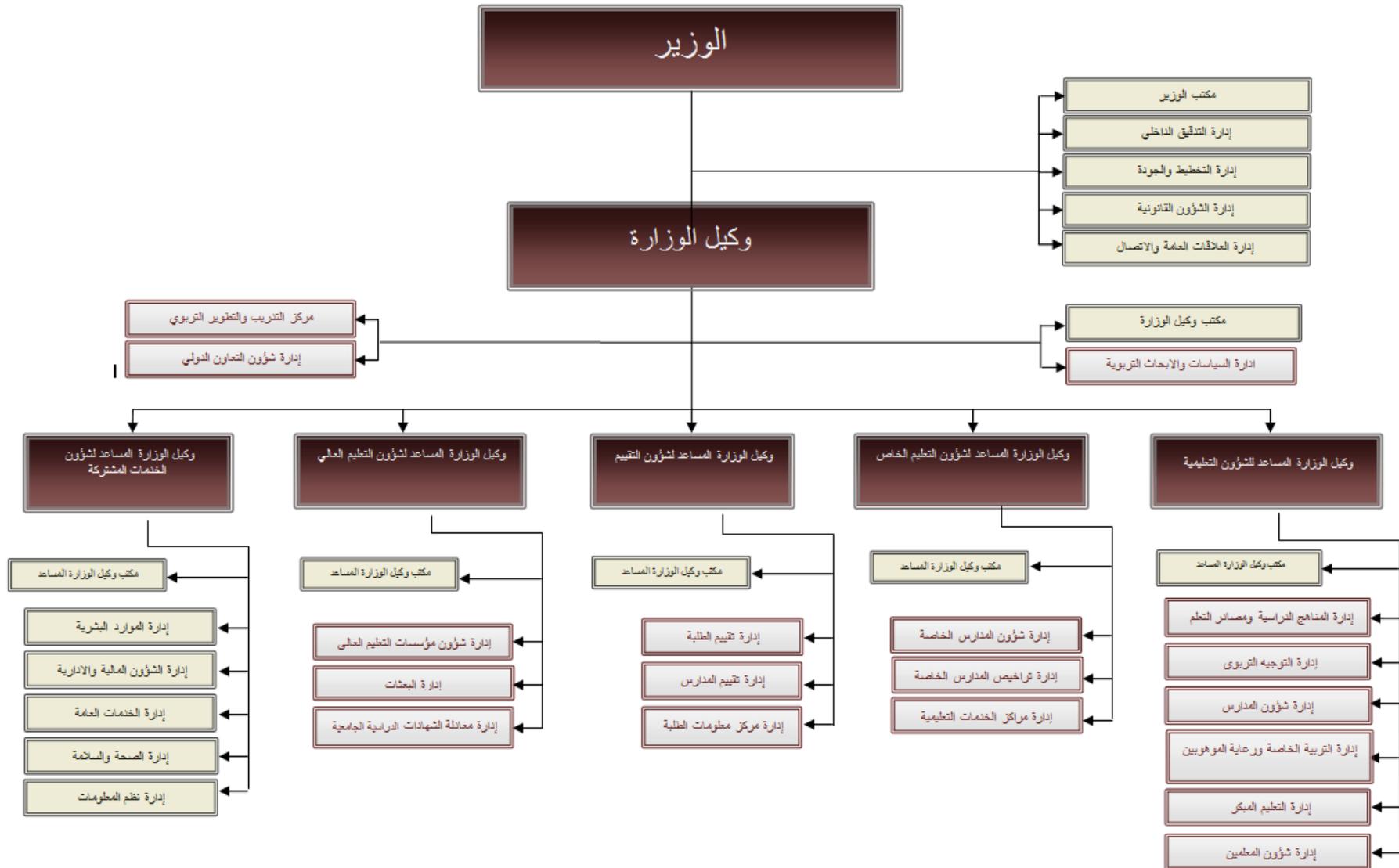


Figure 1. Original MoEHE Organization Structure

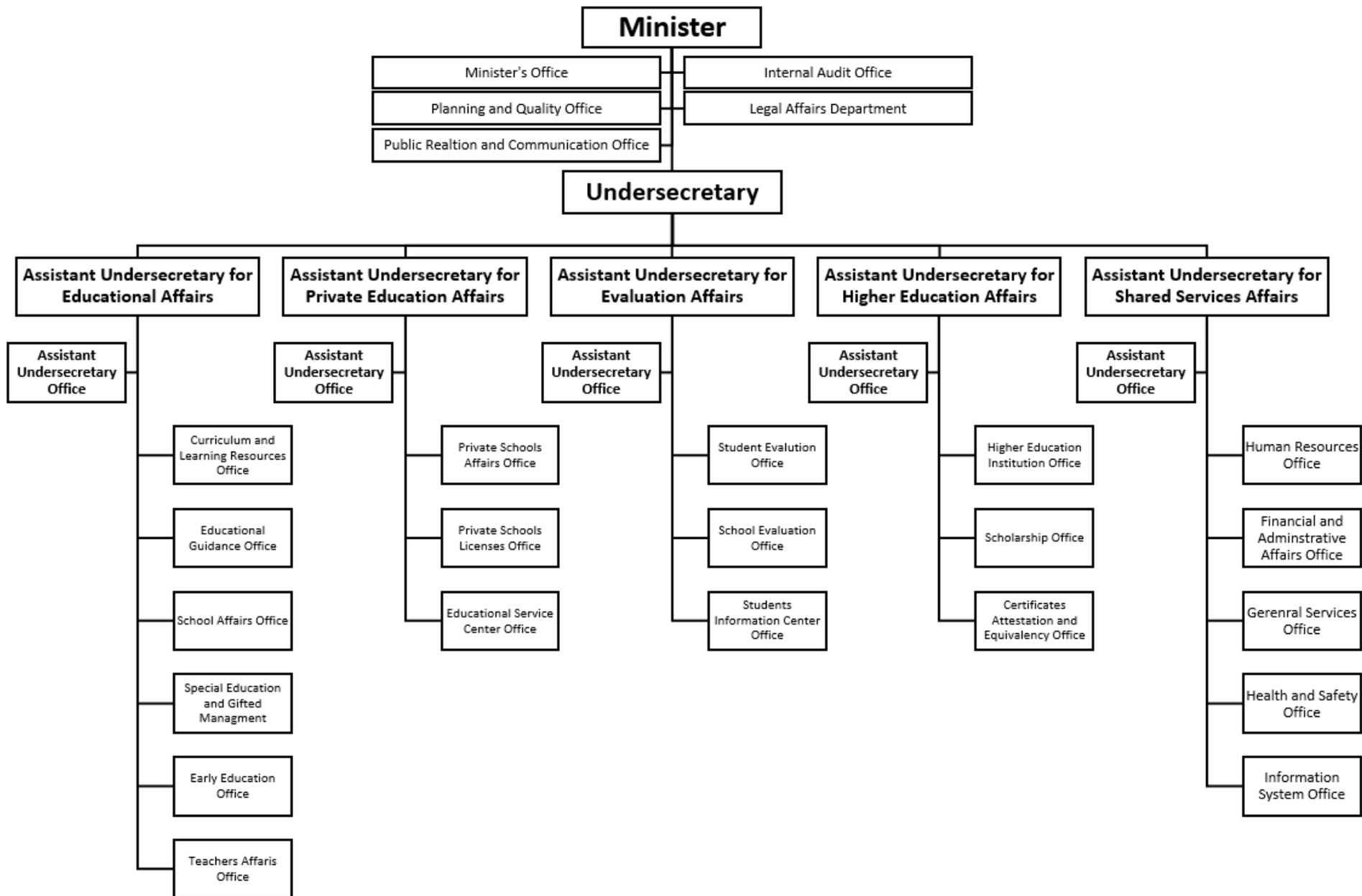


Figure 2. Translated MoEHE Organization Structure

4.2. Evaluation Institute Functions

In any advanced education system which Qatar seeks to have it is essential to have highly innovative evaluation system. Decision Makers strive to have access to high-quality, objective information which can be done by a high quality evaluation system. Evaluation Institute (EVI) has the responsibility of collecting, analyzing and disseminating data. Consequently, the Institute has two primary roles:

- Inform school parties; school leaders, teachers and students about their performance, in order for them to improve.
- Provide information for parents on the extent to which schools are fulfilling their roles to assess them is selecting the best schools for their children.
- Provide information for other parts of the SEC, and to other decision-makers on the extent to which schools are fulfilling their roles, this information help institutionalized system of school evaluation is implemented to provide the required information to the SEC to evaluate the effectiveness of each individual school and the effectiveness of the educational system as a whole.

Evaluation Institute houses five offices:

1. Student Assessment Office
2. School Evaluation Office
3. Data Collection and Management Office
4. Qatar Senior Schooling Certificate Office
5. Qatar Office of Registration, Licensing and Accreditation Office

After the SEC tuned into MoEHE the EVI has only three offices as follows:

4.3. The School Evaluation Office

In this section the school evaluation office will be reviewed further. Designing, implementing and overseeing the evaluation of all schools in Qatar is the main responsibility of the School Evaluation Office. They design the evaluation system to ensure school accountability towards quality education. In addition, school evaluation system works as a tool to assess schools in their development and improvement.

Data for school evaluations and monitoring is obtained from multiple different sources which varied from as independently obtained information resulting from field visits to other source such as questionnaires conducted for all school community. In addition, to all of this school report card data is also considered. All of those data are gathered and analyzed to evaluate the performance of individual schools and all schools in Qatar collectively, to serve the ultimate goal of evaluation which is to promote the highest quality outcomes for all students.

4.3.1 Key parts of school evaluation

This section discusses the key elements of PSES conducted by the EVI.

4.3.1.1 Early Years Evaluation (EYE)

The school evaluation office is delivering the “Qatar National Framework for Early Years Education (QNE-EYE)” to all early years’ practitioners. We consider the

QNE-EYE as a significant addition that, by God's willing, will nurture the educational process of this important stage.

The framework includes six comprehensive standards. These standards are (1) Children's, Progress and Development. (2) Educational Quality. (3) Care and Welfare of Children. (4) Partnerships with Parents and the Community. (5) Resources Management and (6) Effectiveness of Educational Leadership.

4.3.1.2 Qatar Comprehensive educational assessment (QCEA)

In the Qatari educational reform effort, information regarding the student achievements is collected and disseminated by the Evaluation Institute through the annual Qatar Comprehensive Educational Assessment (QCEA). QCEA is in main subjects which are English, Arabic, science, and mathematics, based on the Qatar Curriculum Standards.

4.3.1.3 School Report Card (SRC)

School Report Card (SRC) is developed for the purpose of involvement of parents in Qatar's schools, encourage and empower them by allowing them be more informed about their profiles and performance. This will influence parents while taking decisions relates to their children's schooling.

The process of SRC face challenges cause by the reality of schools are dynamic and complex entities involved. Thus SRC does not provide explicit information of whether a school is bad or good because this is highly influenced by

the culture of an individual school, hence a school which might be good for one child may be bad for another. The SRC serves as core component which can help facilitate connections between parents, community on one hand and the school on the other.

The data from the SRC in their own are not sufficient to decide on school performance thus SRC consider as one element only of the while school evaluation system in Qatar so, they are useful basis for the parents to become more involved and find out more about their children schooling.

4.3.1.4 Triennial School Reviews (TSR)

Identifying schools' performance and know arears for improvement periodical review of Independent Schools is considered as one of the Evaluation process. Triennial School Reviews (TSR) is an external school inspection conducted by the school evaluation office in the EVI and it takes place once every three years. The focus of the review is evaluating the progress of schools towards their own goals and in particularly towards to the goals of the reform.

As a result of the review schools become more aware their strength and weakness as well as the strength and weakness of the reform which gives the education authorities an idea of the required corrective actions.

In addition to ongoing school monitoring, school self-review, TSR works as a key element of the overall evaluation framework. School Triennial reviews is conducted according to six areas of school functioning and performance which are further divided into twenty areas which could be addressed across the reviews.

4.3.1.5 Qatar National School Accreditation (QNSA)

QNSA is established to build a national accreditation system in performance and quality of schooling in Qatar. QNSA aims to achieve the principles of the education system in the State of Qatar, in an era of educational reform, ensuring that schools are continuously and consistently improving standards through self-evaluation and action planning.

This section is no longer part of the EVI after SEC turned into the MoEHE, were the creation of assistant undersecretary for private school's affairs office stands as barrier and work as a risk of authority duplication, therefore all private schools' affairs are assigned to the undersecretary of private schools' affairs.

4.3.2 Key features of PSES

In any evaluation system a clarification of what should be monitored and evaluated, by whom, how and when should be done. In this section the key features of PSES in Qatar is discussed in terms of the its purpose, scope, users, responsibilities, standards, instrument and procedures.

4.3.2.1 Purpose of school evaluation

The system of school evaluation in Qatar is designed to ensure that schools are accountable for providing quality education and to assist schools in their development and improvement. To summarize the evaluation framework is designed to four fundamental principles of the reform are as follows:

1. Reflection of school variety and individuality;

2. Recognition school autonomy;
3. Serve as guideline for the choice about schools;
4. Ensuring accountability of schools.

4.3.2.2 Scope of school evaluation

In Qatar Schools are evaluated according to six different areas which are further divided into twenty specific areas that should be addressed through the school evaluation. Mains and specific areas are as follows:

1. School Functioning and Performance,

1. Leadership and Management
2. School Vision, Mission and Message
3. Financial Management
4. Resources Management and Distribution
5. Curriculum Management
6. Process of School-Self Review

2. Teaching and Learning,

7. Learning Quality
8. Teaching and Pedagogy
9. Evaluation Practices

3. Standards and Achievements,

10. Students and Staff Expectations
11. Social Output of Schooling
12. Academic Output of Schooling

13. Students Achievements and Overall Improvement
14. Students Behavior and Discipline
- 4. Curriculum and Learning Environment,**
 15. Learning Environment
 16. Curriculum
- 5. Staff Deployment and Development,**
 17. Monitoring and Distribution of staff
 18. Preparation and Delivering Professional Development for Staff
- 6. The Relationship Between Parents, Community and The School,**
 19. Parents Involvement
 20. School-Community Relationship

Those areas under evaluation are decided by the EVI and published to the school leaders in a school evaluation manual. The focus of Qatar's PSES is the process to insure compliance with regulations such as areas related to managing staff, financials, and resources. On the other hand, the PSES also tackles the outcomes to examine school acquisition of cognitive and social skills such as evaluating the areas relate to standards and performance which relies on the students' results on national tests and examination.

4.3.2.3 Responsibilities for school evaluation

In Qatar, EVI held the responsibility for defining criteria and standards of PSES and in addition they are responsible for evaluating the school with no shares in

this with any other agency. To summarize we say that EVI held the whole responsibility for school evaluation system for public schools in Qatar.

School evaluation is conducted as follows:

- Internal school evaluation: which is called the school self-review which is mainly has no specific procedures by the EVI, it is up to the school leaders in deciding the way to conduct it.
- External school evaluation: by EVI inspector personnel and their annual surveys for the school stakeholders.

4.3.2.4 School evaluation standards

In Qatar, schools are evaluated according to pre-specified set of standards or the six areas of evaluation which is further specified in twenty areas of evaluation. Those areas are then defined as performance indicators and clarifies with a set of possible evidences. All of the information related to that is provided in the school evaluation manual and are prepared by EVI with no reviews since the EFNE reform started in 2004. Standards defined by the EVI are used by both internal and external school evaluations.

4.3.2.5 School evaluation instruments

Data for school evaluation system are obtained independently from school field visits or from the school stakeholders such as students, parents, teachers, principals, school reports and other resources.

EVI uses a *systematics questionnaire* for students, parent, teachers and school leaders to collect data about the academic achievement, frequently used teaching methods, parental involvement, facilities and resources. All of those data are based on a surveys output. The results of those data are then summarized in a school report card (SRC) and made public by the mid of the second year. Table 2 summarizes the process of SRC data collection. SRC is characterized as providing a focused, selective and indicative picture of the school rather an extensive, exhaustive and prescriptive one.

Table 2. Process of SRC Data Collection

Data Source	Data Collection Period	Data Collection Method
School Profile		School Visit
School questionnaire	October to December	Survey through the Internet
Principle questionnaire		Survey through the Internet
Parent questionnaire		Paper survey completed at home
Student questionnaire	February to March	Paper survey completed at school
Teacher questionnaire		Computer assisted questionnaire

EVI also uses *test data* were they conduct annual Qatar Comprehensive Educational Assessment (QCEA) in the subject matters of English, Arabic, science, and mathematics. This assessment is based on the Qatar curriculum standards. In the previous year's students in all grades tend to have this assessment which worth a 30% of their total subject grade by the end of the year. Starting from this year this assessment is given in students in grade three, six, nine and twelve. In addition, school are required to conduct a *school self-review* on annual bases. This review is viewed by the EVI as one of the areas of school evaluation.

4.3.2.6 School evaluation procedures

EVI follows a Triennial School Reviews (TSR) which takes place in the school once every three years. The TSR is specially designed to Qatar education context for collecting, analyzing and reporting data about the school performance.

TSR collects data from different sources such as interviews with school community, observation and visiting of classrooms, and finally the students' assessment data which is collected internally – by the school – and externally – by EVI from their QCEA –. TSR team visit is announced to the school prior and it takes around one weeks in a school.

The overall evaluation framework includes school self-review, specially commissioned reviews, and annual school report cards in addition to the TSR which is considered as a key element of it.

Specially commissioned reviews are performed in a non-deadline of the periodic school evaluation. Specially commissioned reviews are conducted as a request from other parties such as EDI or any other higher authority in the MoEHE for the purpose of assuring school achievements or monitoring a recommendations of other external authorities. In specially commissioned reviews uses the exact same process and procedures of the TSR.

4.3.2.7 Users of results for school evaluation

School evaluation system is intent to provide schools, teachers, and students with information on their performance. In addition, it provides parents with information to assess them selecting the best schools for their children. More importantly, it is meant to be used by higher authority in MoEHE in order for them to assess the effectiveness of each individual school.

4.3.3 Articulate between PSES and other types of evaluation system

4.3.3.1 Evaluation of teachers

Teachers in public schools in Qatar are evaluated by their subject coordinators and school leaders such as school principle and school vice principle for academic affairs. The procedure of teacher evaluation is decided by the school leaders who follows a standard evaluation form produced by the EDI for all school teachers and in accordance to the NPSFT which is prepared and published by the EDI. NPSFT is

shown as summary in figure 4. After teacher summative evaluation is done the results are send to the human resources office in MoEHE for the use of release of annual bonuses.

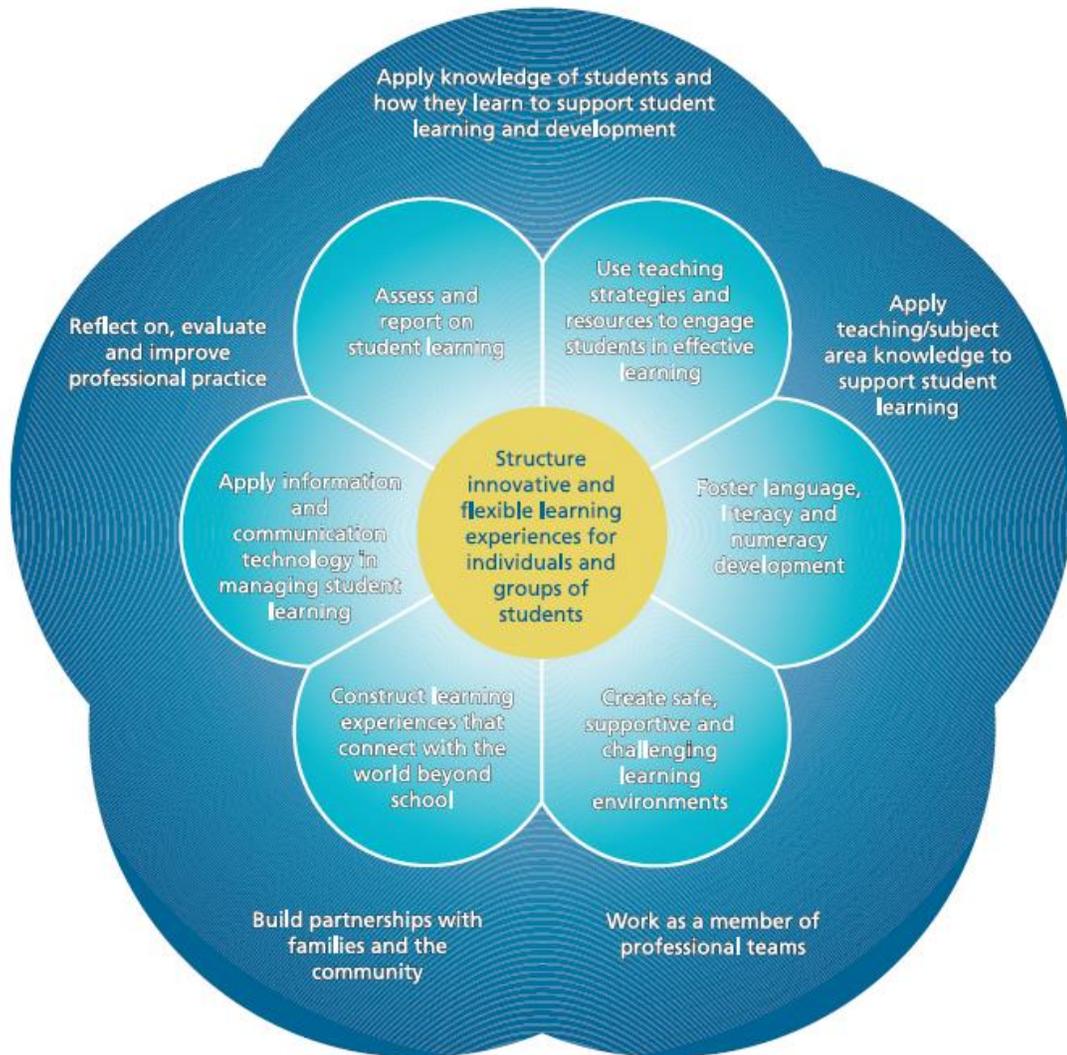


Figure 4. NPSFT consists of 12 petals

Those twelve areas – petals – of NPSFT are lately revised by the EDI who combined and summarize them on November 2015 to be six areas – petals –.

4.3.3.2 Evaluation of school leaders

School leaders are evaluated by the school consultant, who one personnel from EDI who visited the school in different occasions throughout the year. By the end of the year school leaders receive their evaluation from the EDI represented by the school consultant and again it is used by the human resources office in SEC for the use of release of annual bonuses. School leaders in schools are evaluated in accordance with to the NPSFL which is prepared and published by the EDI. NPSFL is shown as summary in figure 5.

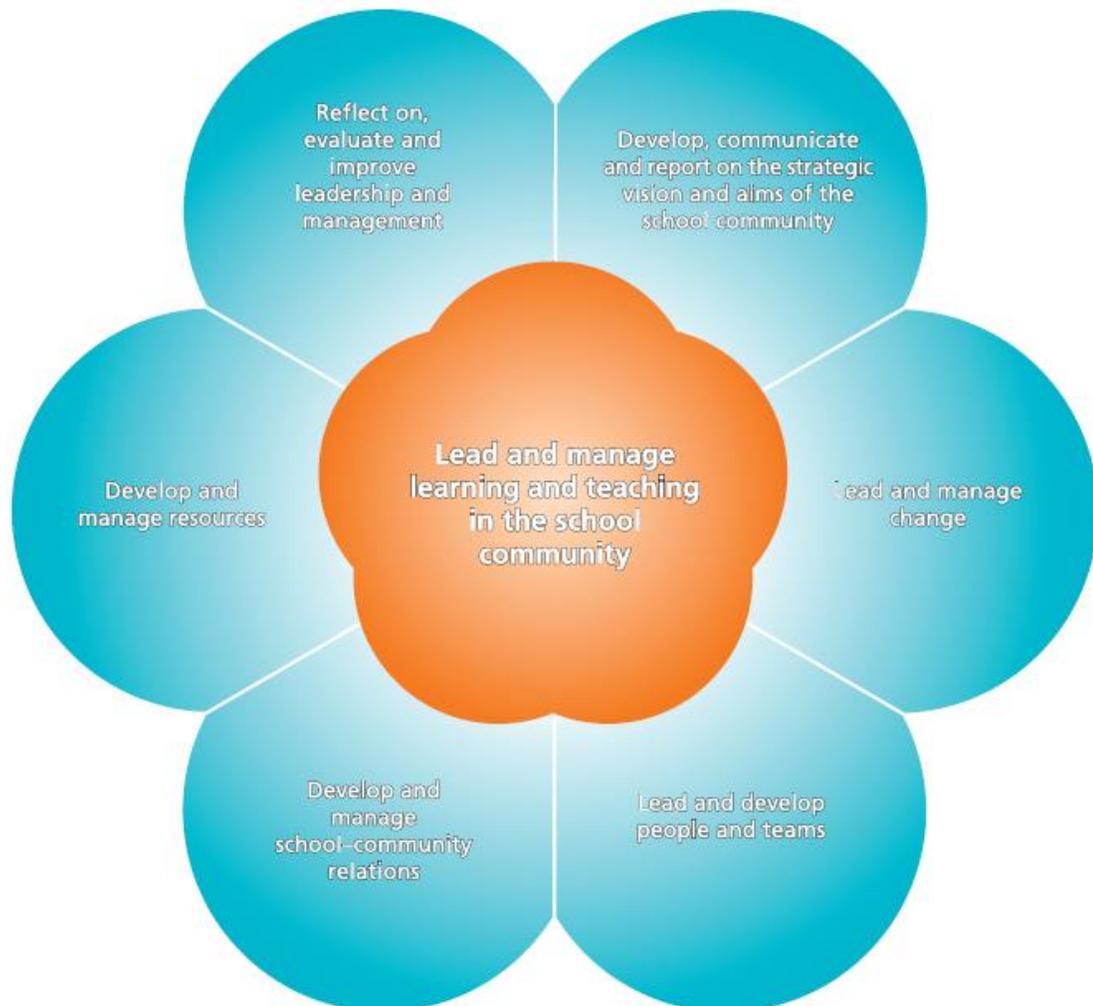


Figure 5. NPSFL consists of 7 petals

Those seven areas – petals – of NPSFL are lately revised by the EDI who combined and summarize them on November 2015 to be five areas – petals –.

4.3.3.3 Evaluation of school system

EVI produces annual report of schools in Qatar, this report is basically a summary of statistical and qualitative data together in a report. This report is made available for the public and the last version of it was for 2013-2014 academic year; two years ago. In the MoEHE there is a division under the minister office responsible of planning and quality and this office is mainly reviews the reports issued by the EVI about the school performance.

4.3.4 Summary of Overall School Evaluation Framework

Figure 6 summarizes the elements of the school evaluation framework under the EVI of the MoEHE.

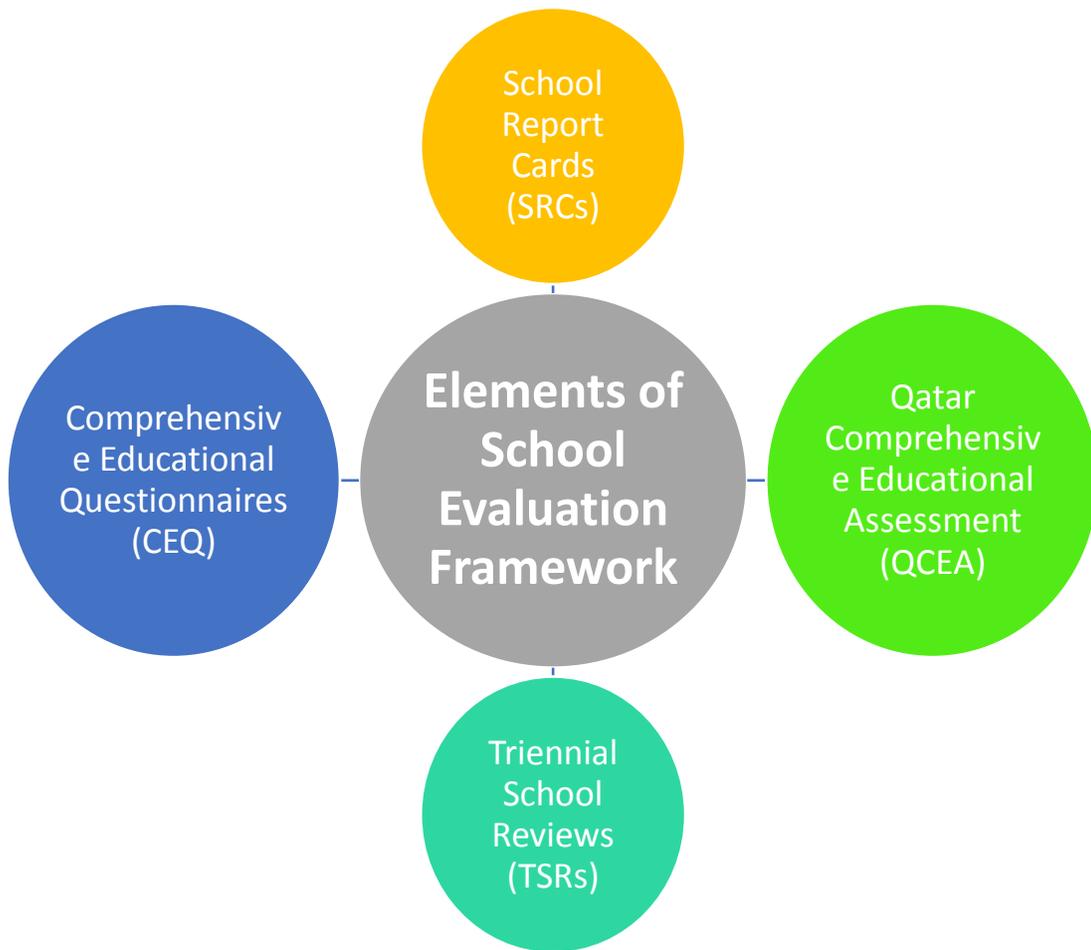


Figure 6. Elements of School Evaluation Framework in Qatar

Chapter 5. Results and Discussion

The purpose of analyzing the PSES is to help in identifying and understanding issues related to its reliability and effectiveness and hence propose systems necessary changes. The OECD organization review school evaluation system in different countries using a conceptual framework that summarize the aspects involved in school evaluation system. The framework shows the interconnect of different parts involve in PSES as shown in the figure 7.

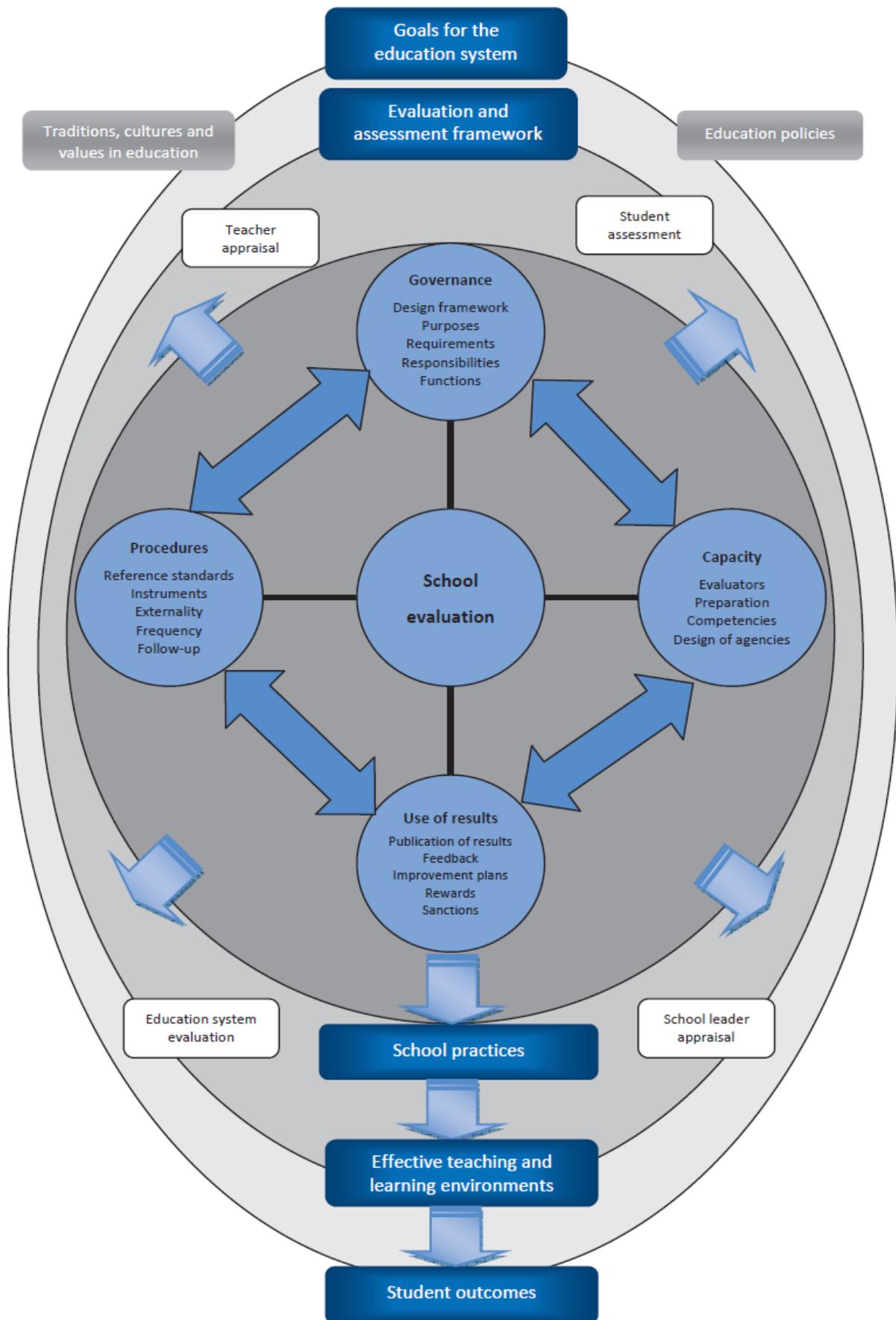


Figure 7. OECD conceptual framework used to review school evaluation system

A similar approach will be followed in reviewing the school evaluation system in Qatar under the EVI authority in the next section.

5.1. Results

In this section, the PSES under the EVI control will be assessed according to its key features and then discuss how it is articulated with other evaluation system in the whole education system. In addition, a comparative analysis will be provided between the practice in Qatar and other practices in United State, United Kingdom, Netherland, Denmark, Hong Kong and Finland because they show to be the best practice worldwide according to Pearson.

5.1.1. Key features of PSES

5.1.1.1. Purpose of school evaluation

It has been known that PSES could achieve two different interlinked purposes, school improvement – formative approach of evaluation – and school accountability – summative approach of evaluation –. The System of evaluation in Qatar seems to be focusing on school accountability and autonomy. On the other hand, PSES in Qatar does not specify its purpose to which dimension and level of accountability it tackles.

The practice worldwide faces a shift from bureaucratic to market-driven accountability where parents in Netherlands and United Kingdom are offered the choice in the education of their children thus evaluation system is there just to assure

the reliability of information provided to the parents and to assure that school meets central defined standards. In Finland, education authority believes that the key to improve schools is through a systematic approach of evaluation. Table 3 summarize the purpose of school evaluation in different countries.

Table 3. Summary of the Purpose of School Evaluation in Different Countries

	Qatar	United Kingdom	Netherlands	Finland	Sweden
Purpose of school evaluation	School accountability and school improvement	Shift from bureaucratic to market-driven accountability. From higher administrative levels accountability is discussed in the form of strengthening consumer control (league tables, school guides) and not in the form of active measures (rewards and sanctions).		Education authority believes that the key to improve schools is through a systematic approach of evaluation.	School evaluation is considered as a tool to evaluated the performance of schools towards achieving national educational objectives and local objectives. It also helps in assessing schools on their own goals, and then make suggestions for improving their performance with respect to those objectives.

5.1.1.2. Scope of school evaluation

In Qatar, areas of evaluation are developed to be six but in other countries numbers are different were the content is almost the same. Schools in Qatar are required to carry out school self-review or what is called school self-evaluation as the existing practice in Netherlands.

On the other hand, Qatar's evaluation system focuses on both processes and outcomes and this practice is there worldwide. Evaluating Process is appearing in the evaluation of school self-review which ensure that the school follows it and benefit from its results, but at the same time there is no proven systematic approach to evaluate the reliability of the information provided in it.

When considering evaluating outcomes, in United States under NCLB Act were evaluation is focused on pupil attainment in national tests. But this evaluation based on students' achievements in the national test does not take into account the value added of knowledge and information to the students rather than the students output. So the school performance measures generally rely on student test scores, it focuses on levels of students' performance not on the gains in students' performance. Table 4 summarize the scope of school evaluation in different countries.

Table 4. Summary of the Scope of School Evaluation in Different Countries

	Qatar	United Kingdom	Netherlands	Finland	Sweden
Scope of school evaluation	Qatar's evaluation system targeted both processes and outcomes	A pre-determined list of aspects to be assessed in the school are provided for the evaluators, where the external evaluation they conduct is typically concerned with both processes and outcomes of the system. Whether the curriculum, the composition of teaching staff, and building management comply with national legislation is the focus of the evaluation and assessment processes. The assessment of outcomes measures considered include the results of students in examination.	Both processes and outcomes are the concern of external evaluation in Netherlands.	Education providers are responsible for evaluating education (the local authorities) since there are no national regulations for the evaluation of individual schools, and then they decide about the approach to local evaluation.	In Sweden the municipalities determine their own content and parts of the school quality appraisals. On the other hand it is recommended by the Swedish National Agency for Education (NAE) that these appraisals deal with school performance and pupil achievement in addition to the school system processes.

5.1.1.3. Responsibilities for school evaluation

It is obvious that EVI is the only authority in Qatar who is responsible of PSES. However, many countries in the world has this responsibility to be shared, for example in United Kingdom school evaluation system is the responsibility of two different authorities as follows:

- Office for Standards in Education Inspectors (OFSED) who inspect the entire work of each public school at least every six years.
- Local Education Authorities (LEAs) who have a legal duty to promote higher standards of education so they are required to monitor their school.

In Qatar both internal and external evaluation are conducted by single party, school leaders and EVI respectively, and there is no systematic way to insure its reliability. The accuracy of the data provided in both evaluations are not tested. The consistency of the evaluation practice is not assured to be the same in all schools. Table 5 summarize the responsibilities of school evaluation in different countries.

Table 5. Summary of the Responsibilities of School Evaluation in Different Countries

	Qatar	Denmark	United Kingdom	Netherlands	Finland	Sweden
Responsibilities of school evaluation	EVI held the responsibility for defining criteria and standards of PSES and actually evaluate the schools according to this.	As part of a national structure for school accountability national standards and student attainment standardized tests have been developed but, local education authorities have kept a pivotal role in the evaluation system. In Denmark the develop curriculum standards in addition to the standards for schools to be used in the evaluation process. The responsibility towards final school evaluation is shared between the national agency and the municipalities.	Publicly-funded school in UK are evaluated by two different authorities; (1) OFSTED which inspect the entire work of each school at least once every six years, (2) LEAs who held a legal duty to promote high standards of education, which require them to monitor their schools. Evaluation procedures by the LEAs are not specifically prescribed, where they are expected to visit all their schools at least once a year to provide early identification of schools causing concern and to discuss school improvement.	School goes through inspectors and external review panels evaluation which by itself in build on school self-evaluation which the schools are required to carry out. The external evaluation is based on objective considerations where evaluators are provided by the central education authorities with lists of criteria which are defined by chief inspectors. Inspectorate has a high degree of autonomy.	Local authorities may pay experts or consultants employed as resource persons for internal evaluation.	The municipalities and the national agency in Sweden are both responsible for school external evaluation. The practice proven that the assistance of teachers or heads of other schools might be considered while conducting school internal evaluation.

5.1.1.4. School evaluation standards

All evaluation standards prepared by the EVI are based on a grading scale which is focus on national average rather than the value-added indicators which does

not take into account schools background and students intake. Table 6 summarize the school evaluation standards in different countries.

Table 6. Summary of the School Evaluation Standards in Different Countries

	Qatar	United Kingdom	Netherlands	Sweden
School evaluation Standards	All evaluation standards prepared by the EVI are based on a grading scale which is focus on national average.	A lists of criteria for external evaluation have been centrally determined by UK government so that schools use them as a guideline in their internal evaluation. Quantitative and qualitative outcome parameters are evaluated in each schools.	Netherlands have centrally determined lists of criteria for external evaluation, it is recommended that schools use them in their internal evaluation. External evaluation partly relies on the judgement formed during internal evaluation.	Internal evaluators have to refer to general guidelines for quality reporting laid down by the Swedish National Agency for Education (NAE).

5.1.1.5. School evaluation instruments

Data collected and SRC are a main part of the school evaluation system, but the data collected are heavily depend on annual surveys and questionnaire ignoring the culture in Qatar towards those type of data collection. It is proven in research that in the use of questionnaires as a method of assessing quality there are serious statistical problems in respect of sample size, response rate, validity, reliability and construct validity. In addition to that SRC is meant to be a tool for parents in school selection, but on the other hand since years ago EDI decided to distribute students in public schools according to their geographical distributions.

While outcomes-based models and results-based management can be valuable tools, how they are implemented impacts their effectiveness as methods for managing education transformation. Another instrument used for the PSES is the QCEA which is basically a standardized exam lacking the potential to assess student progress whereas it assesses the students' outcomes regardless of his or her previous achievements. In United Kingdom, they have a sophisticated set of central and external tests for different stages in the education system which are then used by the inspectors in ranking the schools.

School self-review is conducted by the school as internal evaluation, EVI review this as an evaluation area checklist were there is no systematic way to insure it is reliability and effectiveness. In Sweden, a systematic approach is developed to use the results of PSES for the purpose of preparing a quality report which along with other data provide a basis for evaluation of the school. In Finland, instead of national control, local evaluation and schools' self-assessment, and teachers' autonomy and professionals' skills are encouraged. Table 7 summarize the school evaluation instruments in different countries.

Table 7. Summary of the School Evaluation Instruments in Different Countries

School evaluation instruments	Qatar	Denmark	United Kingdom	Netherlands	Sweden
	(1) Systematic questionnaire (QCSS), (2) National standardized test data (QCEA), and (3) School field visits (TSR).	The schools are asked to prepare an annual report which they use in their own internal evaluation, and this is applied in the majority of municipalities.	In UK gathering data is done through a systematic questionnaire, were parents and pupils may be consulted for internal evaluation.	(1) interviews with pupils. (2) Questionnaire for school managers.	The data of the quality reports serves as a base instrument for school evaluation in Sweden.

5.1.1.6. School evaluation procedures

The practice worldwide goes through different stages of inspection as follows:

1. Notice of inspection to schools
2. Pre-inspection and background documentation
3. Site inspection visit and observation
4. Discussion on findings
5. Reporting and follow-up

EVI in Qatar notify the schools on the inspection a head of time which limit their opportunity to inspect the school accurately to insure reliable data.

Prior to the evaluation stage, evaluators systematically collect various of qualitative and quantitative information which might be conducted and produced by the school in earlier stage. Evaluators in United Kingdom uses questionnaires to people who belong to the school community similar to the practice in Qatar conducted to produce the school report card.

Site inspection are usually there in all evaluation framework, in United Kingdom several bodies have formed teams of inspectors in order to broaden the range of skills to be mobilized and to evaluate schools more thoroughly. On the other hand, Netherlands has similar practice where the team member are around 10 inspectors. Whereas in Qatar, numbers are not specified and sometimes individual inspector visited the school.

Schools in Qatar usually does not get the chance to discuss their evaluation with the inspector rather they have it reported as a summative evaluation draft, however in some other countries as Netherlands the management team of the school had a meeting with the inspection team to discuss the results and are allowed to comment on it. Finally, the reporting stage, where the results of the evaluation is reported in a systematic manner. In Qatar, EVI does not publish the results of evaluation for the public. Table 8 summarize the school evaluation procedures in different countries.

Table 8. Summary of the School Evaluation Procedures in Different Countries

	Qatar	Denmark	United Kingdom	Netherlands	Finland
School evaluation procedures	EVI follows a Triennial School Reviews (TSR) (so named because it is undertaken on a three-yearly cycle). Self-evaluation is a must.	Schools conduct regular self-evaluations were it is considered to be mandatory for schools.	School community and stakeholders (school head, the management team, teachers, parents, pupils or members of school boards or committees) receive questionnaires from evaluators. The number of team members who visits the school for evaluation may be as high as 15. Self-evaluation is strongly recommended.	The number of team members who visits the school for evaluation may be as high as 10. Evaluation findings are made known to the school in a meeting which involve the school management team with up to ten other members of the school. Self-assessment is mandatory.	Self-assessment is mandatory

5.1.1.7. Users of results for school evaluation

As EVI claims that school evaluation is meant to be used by different parties in different ways and for different means; those parties are school leaders, teachers, students, parents, and MoEHE. But in fact students and parents did not get enough and advocate information about the school performance, they only get statistical information – qualitative data – about the school which is mainly collected through annual surveys for the school stakeholders, those annual reports does not provide information about the actual school performance – qualitative data –. The type of system Qatar’s has for their public school allows the school to be accountable to MoEHE authority whereas the trend in practice worldwide is to held the school accountable to multiple authorities. For example, in United Kingdom, schools are accountable to the central level through office for standards in education inspectors

(OFCSE), to their local authorities, and to a governing body which includes representative of key stakeholders.

On the other hand, there is lack of evidence in continuous monitoring and evaluation provide to the school after showing an average or below average results on performance. Whereas in countries like Denmark when school performance is unsatisfactory schools are asked to draft a plan for improvement. On the other hand, United Kingdom schools causing most concern and performing bad consume the inspectors most time monitoring and supporting them and sometimes revisit a school to explore further and disseminate very good practice. Table 9 summarize the users of school evaluation results in different countries.

Table 9. Summary of the Users of School Evaluation Results in Different Countries

	Qatar	Denmark	United Kingdom	Netherlands	Sweden
Users of school evaluation results	EVI design PSES to be used by all school stockholders.	In those two countries press or internet are used to make the evaluation results available for the population. Ministry's or on the evaluator's website could be use to publicized the results. Sometimes disciplinary action can be taken against schools.		After the inspectors wrote the evaluation report and identifies serious shortcomings, the school ministry is accompanied by recommendations as to enhance the school performance. Those recommendations are further defined into measure to be take. The Minister may decide to take administrative action, which might be in a form of penalties, such as a funding cut.	Creation of comparative tables of school accompanied by recommendations is not created as a results of evaluations undertaken by school inspectorates although the school evaluation result is published among the entire population. In addition, evaluation results of internal evaluation are sent to the central education authorities.

5.1.2. Articulate between PSES and other types of evaluation system

5.1.2.1. Evaluation of teaches

It is important to have the teachers' evaluation to be part of the school evaluation since it serves the direct purpose of improving the teaching process, it promote teachers to be accountable for their work, it is part of evaluating individual teachers on their contribution to school development, and it servers to plan for teacher development which is part of school overall development. In Qatar, there is no evidence that EVI looks at and/or use the information provided by the teacher evaluation by the school leaders which leaves a space from highly possible contradiction between thoughts and opinions around the quality of teaching and learning. In most inspection system lesson observations is used to assess the quality of learning and teaching were teachers are strongly contributed. In most countries, United State, Netherland, and Denmark evaluation of teachers can take place in the context of school evaluations, but are then solely used to form a judgment on the quality of the school.

5.1.2.2. Evaluation of school leaders

As school leaders are evaluated by a representative from the EDI the results are not shared with the EVI and there is no evidence that EVI looks at and/or use those evaluations. Contradiction between evaluating school leaders and evaluating a school in management and leadership roles is highly possible to occur, historically

school leaders have raise their voice disapproving their schools' evaluations which with time lead to informal discussions between school consultants in EDI and EVI.

5.1.2.3. Evaluation of school system

EVI has no responsibility to evaluation the whole education system in Qatar. In addition, there is no evidence that their school evaluation results are used in the planning and decision of the which education system quality under the minister office. In United Kingdom, the evaluation conducted by the local authorities is used primarily by these authorities or the schools themselves.

5.2. Discussion

In this section the results and findings will be discuss in accordance to the quality, reliability, and effectiveness of PSES.

5.2.1 Quality of the evaluation system

Designing and implementing any framework of school evaluation framework requires attention to the following four dimensions:

1. Capacity; which include evaluators, preparation, competencies, and design of agencies.
2. Governance; which include design framework, purposes, requirements, responsibilities, and functions.

3. Procedures; which include reference standards, instruments, externality, frequency and follow-up.
4. Use of Results; publication of results, feedback, improvements plan, rewards, and sanctions.

The first two dimensions; capacity and governance can be considered as a check for designing phase of the PSES, whereas the other two dimensions; procedures and use of results are mainly focuses on the implementation phase of the PSES.

EVI in general has the capacity and governance to prepare and design the PSES, but it seems lacking details in design for the implementation phase of the framework. In addition, the system shows a contradiction and overlap of responsibility towards PSES between EDI and EVI were each institute has their separate building of their offices as figure 8 shows and has no systematic approach to connect and work together.

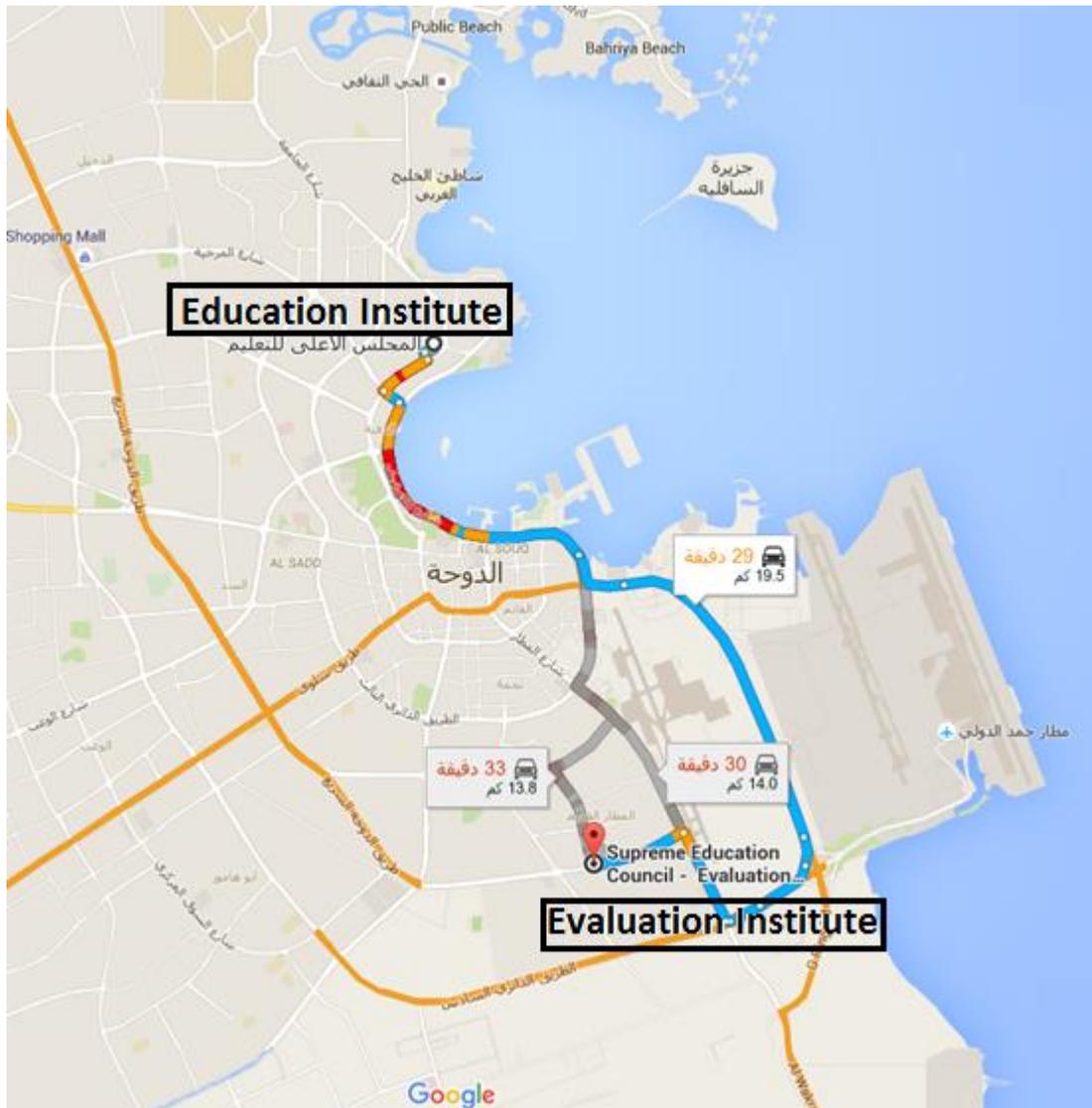


Figure 8. ECI and EVI office location in the map of Doha

EVI define their implementation procedures of PSES with less details which sometimes leave the system lacking consistency thus reliable data. There are many data sets within the EVI those databases are collected routinely and managed separately by different offices in order for them to meet their job requirements and management purposes.

EVI does not publish a qualitative data of PSES whereas they publish the quantitative ones which is a result of comprehensive school questionnaires'. When it comes to feedback and improvement plans it seems that their way of evaluation is summative where they did not discuss the results of the feedback with the school, in addition to that they leave the follow-up to be the responsibility of the EDI. As per rewards and sanctions there is no systemic approach for school evaluation results to be used in that sense.

5.2.2 Reliability of the evaluation system

In this section the reliability of PSES under the EVI is assessed. Reliability in the context of PSES relies on the validity and reliability of the information provided about the indicators of the evaluation framework. To define reliability further, accuracy and consistency is defined. Accuracy is mainly concerned by the quality of evaluation being true and reflecting the actual practice on the school. Consistency define at what extent the PSES is conducted the same everywhere by all evaluators. The reliability of the PSES conducted by the EVI is criticize in the following:

- The *scope* of evaluating the school is having not been revised, and on the same time the concept of independency in school is restricted by the EDI. For example, school at the beginning of the reform has the independency in develop the curriculum in accordance to the national curriculum standards, whereas and around three years ago EDI manage to have coordination with school book publisher – Al-Obekan – were they supply

all school and force them by regulation to use those books as educational main resource. On the other hand, one of the main areas of school evaluation is evaluating school on curriculum as a learning tool and as a management aspect. This practice results inaccurate PSES where data does not reflect the real quality of the school since this way they will be evaluated on the work of the EVI.

- EVI uses QNEA as a *tool* to assess school outcome on the students learning. QNEA is a standardized tool of paper testing given to the student by the end of the year. This assessment was subject to high changes the last few years. Researchers have proven that there should be a systematic approach of those national test validity in order to trust them and use their results. In practice, students may be asked a question on a standard which EDI decided to eliminate it from the student book, thus those exams cannot be trusted to be accurate or valid. In addition, QNEA does not take into account the school geographies and the weaknesses of school students, because in Qatar there are some geographic areas where students reflect highly demotivated students with low academic achievements and parents' literacy in compare to other schools in Doha. In fact, it is proven by research that each school is different, (Ellili-Cherif & Romanowski, 2013) studies different stakeholders' perception of Qatari education reform – EFNE – and conclude that all of their findings are context based were principle, teachers, and parents experience with the reform heavily depends on a particular school.

- EVI design their PSES in a way which gives the *responsibility* of school evaluation to a single party, which is the school evaluator / inspector. This hold a question on the consistency of the practice in all school in Qatar which again negatively affect the system reliability.
- EVI asks schools to conduct school self-review on annual bases as one of the PSES *procedure*. Inspectors check the school self-review as an area to evaluation schools on but they did not check the validity and accuracy of the information provided by the school. To summarize EVI evaluate the process of conducting the school self-review and not the content which drive the final conclusion and the review outcomes.
- Under the defined *process* of PSES in the EVI notify the school prior to the inspection period about their visits. This results a clear appearing of unethical hidden practice by schools who make them self-prepare for that evaluation period in different ways. Thus results of the inspection is not that accurate and reliable.
- EVI heavily relay on quantitative data for school assessment and it is always advisable to have a systematic reliable approach to use a qualitative data on evaluations the performance of the system.

5.2.3 Effectiveness of the evaluation system

In this section the effectiveness of PSES under the EVI is assessed. In relation to PSES effectiveness is meant to measure how the system serve it intended purpose

of school accountability and school improvement for the overall educational benefit.

The effectiveness of the PSES conducted by the EVI is criticize in the following:

- EVI conduct their PSES for two *purposes*; school accountability and school improvement. There are no much emphases on school improvements hence school improvements and monitoring procedures are not impeded in the PSES framework.
- When it comes to evaluation system to improve school accountability as evaluation *purpose*, EVI does not further define the targeted dimension and level of accountability required.
- After evaluating the schools by the EVI, their *procedures* of evaluation do not have a systematic approach of discussing the evaluation results and conclusion with the school leaders. This task is evocated to the EDI.
- EVI used a *framework* of evaluating the schools that does not tackles the monitoring part of education quality assurance in the schools. The PSES lacks the ingoing assessment of the school performance.

Chapter 6. Conclusion and Recommendations

There is no clear approach for school evaluation system that seems to be satisfactory and cover all its complex elements. Therefore, a combination of different approaches can be considered. This chapter provides recommendations to improve the overall reliability and effectiveness of the public school evaluation system.

6.1. Recommendations

There are different factors that are significant to the school inspection and evaluation, those factors are as follows:

- Feedback;
- Publication of reports, test results and league tables;
- School leadership;
- Parental choice;
- Institutionalization, including ‘performativity’;
- Sanctions and support;
- Internal school capacity.

Knowing so the following recommendations are given.

6.1.1. Improving the reliability of the PSES

6.1.1.1 Interlink between SSR and evaluation by EVI

To improve reliability of PSES in Qatar, an approach of connection between school self-review (SSR) as internal evaluation method and an external evaluation approach by the MoEHE as proposed by (Nivo, 2001) could be used. (Nivo, 2001) stated that legitimizing the validity of the internal evaluation can be used so that internal evaluation can benefit from external evaluation since it is importance to acknowledges the benefits in the other view of evaluation. This support will be maximum if the results from both parties' point in the same direction and if the school by itself conduct self-evaluation. This interaction between the two evaluation should be based on a two-way flow of information in a process of mutual learning where both parties are not necessarily equal in authority, but each has something to learn from the other, and something to teach the other. Thus, EVI must play the central coordinating role to integrate all data activities with a charged authority.

6.1.1.2 Review standards and areas of evaluation

Practice has proven that areas and standards which school area evaluated according are lacking accuracy and validity, since sometime schools is assessed on areas that are not under their control and not part of their responsibility. The PSES should cope with changes in EDI new rules and regulations.

In addition, EVI should impede a systematic way of evaluation with considering the school SWOT analysis and the school geographies in the evaluation.

In practice there are a lot of conducted researches to assess schools in accordance to their value added to students learning rather than their students' outcome.

6.1.1.3 Consistency of understanding of school evaluation standards

As a method to increase evaluation system consistency and insure consistence understanding of standards and indicators for the PSES, school leadership has to framework the standards and areas of PSES as the practice of Ziezo project in Netherland. Where all stockholders of PSES sits in a round table to discuss and agrees on a common understanding of evaluation areas, standards and procedures.

In addition, a shared view of standards and indicators amongst inspectors is essential and this could be done through a higher position personal working as consultant inspector reviewing all visitation draft report. In Hong Kong, constructive dialogue between internal and external evaluations needs to be established as a basis for their coexistence, according to them external evaluation should be a partner for dialogue rather than an object for rejection.

6.1.1.4 Involvement of different parties in school evaluation

Statistics are collected by the EVI through their annual comprehensive questionnaire. In Qatar, this tasks could be done by different ministries such as the ministry of development planning and statistics which is more concerned about statistics. This involvement can result in a higher validity and reliability of the collected data and information. Under the MoEHE there is an office responsible of

learning and quality, this office is required to review and assess the PSES procedure and advise schools on that matter.

6.1.2. To improve the effectiveness of the PSES

6.1.2.1 Enhance school monitoring and improvements

(Clercq, 2007) stated that the process of monitoring and evaluation to control and ensure quality of school system is essential. This proposed system of monitoring and evaluation is aiming identify the strengths and areas for improvement through the introduction of accountability. Thus schools can improve on the basis of that evaluation which provide them with advocate information of new course of action that could be taken and any possible support strategies.

There is a huge difference between monitoring a system and evaluating it. Monitoring is a continuous throughout the practice of day to day activities whereas the evaluation is a periodical review for the overall delivery of the output.

EVI is concerned more about evaluation and ignores monitoring. It is advisable if both tasks are tackled, performed and managed by the same institute. Table 10 illustrate the different levels for monitoring and evaluation which can be followed by the EVI and provide them with a basic framework to start.

Table 10. Different levels for monitoring and evaluation

Point of measurements	What is measured?	Indicators?
Outputs	Effort	Implementation of activities
Outcomes	Effectiveness	Use of outputs and sustained production of benefits
Impact	Change	Difference from the original problem situation

According to (Huo, 2009) monitoring and evaluation system has many benefits as follows:

1. Provides a tool for strategic planning, budgeting, and management.
2. Can send early signals that attention is needed and identify the kinds of change that are warranted.
3. Enhance management accountability for the government.

6.1.2.2 Develop a system of change management

Recently, educational landscape in Qatar has drastically changed which also change the role of school leadership and school principal. (Romanowski, 2014) conducted a study about critical issues facing principles after the Qatar's education reform was established. The author conclude that the voice of principles expresses the need for complex understanding of change and this was a result of the absence of

educational leadership preparation programs that prepare educational leaders with complex understandings of what is involved in reform and policy change.

Therefore, schools that score low should receive a detailed feedback and hence EVI can help them to change and manage that change in the school. This can be done under the supervision of school inspector. EVI should be able to build a model for those schools based on a rigorous analysis of the problems of quality in their performance – how the problems arise and how they intersect – and on appropriate change models and strategies.

(Schildkamp & Visscher, 2010) emphasis on the importance of school support and training, both for understanding data in the school evaluation report and in using it to make improvement. The authors claim that following this suggest will insure the effectiveness of the school evaluation system. (Weir, 2003) discuss the support from external stakeholders and the local authority which is proven of being significant in the improvement of schools following inspection.

6.1.3. To improve the overall quality of the PSES

6.1.3.1 Improve the quality of information and database

According to (Hua & Herstein, 2003) guaranteeing timely production of data and information to meet different needs, the process of data collection, data entry, data processing, data integration, data analysis, and data reporting should be short, efficient, and productive. Authors also comment on the reliability of data in education management information system by saying “The reliable production of data suggests

that EMIS data, once produced, must reliably report a “current reality or status” or “trend of change” of educational development of the country, district, or school.”

This means that the data can be trusted by all education system parties such as policy makers, planners, budget makers, field educational officers, principals, teachers, parents, and students. To gain this trust the whole process of data collecting and analysis must be handled carefully such that:

- Scientific process of fact finding should be the focus while collecting data.
- measuring certain elements of the educational system or sub-systems must be through indicative variable.
- Well-trained and prepared data collector who follow scientifically rigid steps while collecting data.
- Data collector should have flexibility and freedom to change the course of data collection.

Data reliability level would be affected design of data collection instruments, clarity of question items, field data collection methods, educational and ethical level of respondents, design of computer database applications, data entry procedures, data aggregation methods, data integration procedures, and analytical and data processing capacity. Carefully craft of all of the above can work for the benefit of the reliability of the data.

The annual report published by the MoEHE about the school as SRC is mainly statistical reports and a summary of surveys distributed to school stockholders which indeed does not give a clear picture on the school actual performance and

current quality. It has been proven that information database within EVI insufficiently produces information for policy planning and decision making within and beyond each individual department. Integration of system data is required to get the maximum out of the available data and to be able to use them effectively in decision making to improve the school system. MoEHE should take a coordination role to integrate all data activities under one charged authority.

6.1.3.2 Develop a holistic approach for PSES

As mentioned earlier, schools and school staff are evaluated by different authorities, using different instruments, and following different standards. This system is highly subject to discrepancy which does not serve the overall picture of evaluation for accountability and improvement. A proposed holistic approach of evaluation can be considered where, student assessments, teachers' evaluation, school leaders' evaluation, and school evaluation can be integrated in one system to eliminate redundancy and to obtain a more reliable results. In addition, a collaboration between EDI and EVI to resolve contradictions in authorities, responsibilities, and conflict between their results and conclusions.

6.2. Conclusion

EFNE was introduced in Qatar to foster changes to the K-12 educational system in 2004. ENFE was proposed by RAND cooperation, it contains an introduction of SEC and its institutes which were EDI and EVI. This project studies

the public PSES in order to assess the system reliability and effectiveness. The project focuses on accuracy and consistency to be core measures of the reliability of PSES.

The results show the reliability of school system and can be criticized by:

- Scope of evaluation in the PSES which does not cope with changes in the MoEHE rules and regulations for the public school.
- Using tools for evaluation which are not customized to serve the purpose of school evaluations such as the QNEA.
- Authorize a single competence party to be responsible of the whole PSES.
- Promote school self-review as a check list and ignores the validity of the information it provides.
- Notifying school prior of inspection does not guarantee reliable information and practices observed in that period.
- Depending on qualitative and statistical data which come out as the results of questionnaires.

The results show the effectiveness of school system and can be criticized by:

- Not providing a clear definition of the PSES purposes, therefore it does not clearly define the targeted accountability of schools.
- Neglecting monitoring roles is affecting its effectiveness negatively.
- Giving the schools no chance to discuss and understand the results of their evaluation.

Therefore, recommendations were as follows:

- Find a way to provide an interlink between SSR and PSES.
- Review standards and areas used in PSES on annual bases.
- Work on having a consistency in understanding of instruments used for evaluation.
- Invite and promote the benefit of the involvement of different authorized parties in school evaluation.
- Enhance the PSES to include monitoring roles.
- Develop and integrate a system of change management which schools should work on after they receive their evaluation results.
- Improve the quality and reliability of information and data base in the system.
- Develop a holistic approach for PSES.

6.3. Future research work

Clearly, this project promotes a conversation and reflection on the practice of evaluating public school in Qatar and in addition it raises important issues about the reliability and the effectiveness of PSES. Therefore, further research is needed to gain insight into what is actually happening in the schools because due to time limitation, data collected in this report does not go further to observe the practice for the whole system of evaluation in a school under the EVI. This could be done to show and define the gap in practice of evaluation between different evaluations. On the other hand, this report can be further developed to actually establish the proposed holistic approach.

In addition, this report can be extended to define the evaluation system in Qatar with respect to the practice of school evaluation worldwide and perform a benchmarking which keen on providing a detailed comparative analysis.

References

1. Brewer, D. J., Augustine, C. H., Zellman, G. L., Ryan, G. W., Goldman, C. A., & Ryan, G. (2007). *Education for a New Era: Design and Implementation of K-12 Education Reform in Qatar*. Rand Corporation.
2. Stufflebeam, D. L., & Webster, W. J. (1983). An analysis of alternative approaches to evaluation. In *Evaluation models* (pp. 23-43). Springer Netherlands.
3. Thornton, B., Shepperson, T., & Canavero, S. (2007). A systems approach to school improvement: Program evaluation and organizational learning. *Education*, 128(1), 48.
4. Casassus, J. (2001). School evaluation in Chile: The case of SNED. *Prospects*, 31(4), 565-574.
5. Wong, M. N., & Li, H. (2010). From external inspection to self-evaluation: a study of quality assurance in Hong Kong kindergartens. *Early Education and development*, 21(2), 205-233.
6. Blok, H., Slegers, P., & Karsten, S. (2008). Looking for a balance between internal and external evaluation of school quality: Evaluation of the SVI model. *Journal of education policy*, 23(4), 379-395.
7. O'Brien, S., McNamara, G., & O'Hara, J. (2015). Supporting the consistent implementation of self-evaluation in Irish post-primary schools. *Educational Assessment, Evaluation and Accountability*, 27(4), 377-393.
8. De Clercq, F. (2007). School monitoring and change: a critical examination of Whole School-Evaluation. *Education as change*, 11(2), 97-113.
9. Jung Peng, W., Thomas, S. M., Yang, X., & Li, J. (2006). Developing school evaluation methods to improve the quality of schooling in China: A pilot 'value added' study. *Assessment in Education: Principles, Policy & Practice*, 13(2), 135-154.
10. Dorczak, R. (2011). The role of the new School Evaluation System in the transformation of school organizational culture for innovativeness. *Contemporary Management Quarterly/Współczesne Zarzadzanie*, 3.

11. McNamara, G., & O'Hara, J. (2012). From looking at our schools (LAOS) to whole school evaluation-management, leadership and learning (WSE-MLL): the evolution of inspection in Irish schools over the past decade. *Educational Assessment, Evaluation and Accountability*, 24(2), 79-97.
12. Manzi, J., San Martín, E., & Van Belleghem, S. (2014). School system evaluation by value added analysis under endogeneity. *Psychometrika*, 79(1), 130-153.
13. Faubert, V. (2009), "School Evaluation: Current Practices in OECD Countries and a Literature Review", *OECD Education Working Papers*, No. 42, OECD Publishing. <http://dx.doi.org/10.1787/218816547156>
14. Claire, S., Eunice, J., Peter, M., & Paulo, S. (2011). OECD Reviews of Evaluation and Assessment in Education OECD Reviews of Evaluation and Assessment in Education: Denmark 2011 (Vol. 2011). Oecd Publishing.
15. Scheerens, J., Ehren, M., Slegers, P., & Leeuw, R. (2012). OECD review on evaluation and assessment frameworks for improving school outcomes: country background report for the Netherlands.
16. Nevo, D. (2001). School evaluation: internal or external? *Studies in Educational Evaluation*, 27(2), 95-106.
17. Saunders, L. (1999). Who or what is school' self-evaluation for? *School effectiveness and school improvement*, 10(4), 414-429.
18. Ellili-Cherif, M., & Romanowski, M. H. (2013). Education for a New Era: Stakeholders' Perception of Qatari Education Reform. *International Journal of Education Policy and Leadership*, 8(6).
19. Romanowski, M. H. (2014). Qatar's Educational Reform: Critical Issues Facing Principals. *Multidimensional Perspectives on Principal Leadership Effectiveness*, 88.
20. Haiyan Huo. (2009) Monitoring and Evaluation Partnership (MEP) Project (USAID) 2010-2014 Amman, Jordan.
21. Hua, H., & Herstein, J. (2003, March). Education management information system (EMIS): Integrated data and information systems and their implications in educational

management. In *annual conference of comparative and International Education Society*.

22. Weir, D. (2003). Her Majesty's Inspectorate of Education (HMIE). *Scottish education second edition: Post devolution*, 151-58.
23. Schildkamp, K., & Visscher, A. (2010). The use of performance feedback in school improvement in Louisiana. *Teaching and Teacher Education*, 26(7), 1389-1403.