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The Level of Teachers' Awareness of Smart Schools in Jordan

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Abstract

The study aimed to identify the level of teachers' awareness of smart schools in Jordan. In addition, it sought to find the statistical significant differences (α=0.05) of the level of teachers' awareness of smart schools in Jordan according to gender, qualifications and experience. The study used the descriptive approach. The researchers developed a questionnaire that consisted of 35 items to collect the data from the study sample. The study population consisted of 1,554 teachers, with the study sample consisting of 466 teachers who were chosen according to the stratified sample approach. The study results showed that Jordanian teachers have different levels of awareness of the smart schools philosophy, principles, requirements, and benefits. Teachers are aware of some elements of smart schools but are not aware of others. Teachers have a high level of awareness that smart schools have

become a necessary part of the political, social, economic and educational development of contemporary nations. However, their awareness is moderate on the role of smart schools in promoting participatory (or cooperative) education that allows the exchange of experiences among learners who them benefit from each other. Also, their awareness is moderate on the role of smart schools in the transition of schools to be learning organizations and community institutions that are not separated from the local communities and their realities and problems, and contribute efficiently to the process of comprehensive development. In light of the study findings, it is recommended that the Ministry of Education start a national project to transfer Jordanian schools from their current traditional settings to be smart schools in the near future. In addition, the Ministry of Education and private schools should make Jordanian teachers aware of the philosophies, requirements, and the effectiveness of smart schools.

Keywords: Smart School, Teachers, Basic Education, Jordan.

1. Introduction

Smart school is a necessity for modern nations political, economic, social and educational development, and it is a very important step for future generations. This would help to immerse them into the knowledge age, to build a knowledge society based on development knowledge to solve society problems, and to found a democratic- prospering society. As a result, researchers believes it is of significant importance to conduct scientific studies about smart schools in Jordan, its importance, mechanisms of applying, teachers point of view, and the obstacles and challenges.

Smart School can be defined as schools equipped with electronic classes equipped with computers and software that enable students electronically communicate with teachers and materials prescribed. The smart school system enables the electronic management of the various activities of the school, starting with the attendance and departure systems and the completion of the examination and correction. Smart school is also able to communicate with other schools, which operate the same system, and with parents of students (Abdulhaiy, 2009). Nevertheless, the new approach in smart school definition is based on a comprehensive overview as a system in terms of teaching and learning, the new goals and roles of the teacher and the learner, innovative strategies and methods of teaching, the new educational philosophy, and the strategic objective of the smart school to be seen as an innovative model for the school of the future. However, the philosophy of smart school aims toward developing the potential of individuals in a holistic and integrated manner. This is for the purpose of producing individuals who are intellectually, spiritually, emotionally, and physically balanced and harmonious (Ong & Ruthven, 2009). On this note, the smart school seeks to achieve the following objectives: Provide all-round development with provision for individual abilities; Offering a broad curriculum for all, with electives, that is vertically integrated, multidisciplinary and interdisciplinary; Emphasize intellectual, emotional, spiritual, and physical growth, as well as concentrating on thinking, developing and applying values, and using correct language across the curriculum; Produce a technologically literate workforce that can think critically, encouraging thought and creativity across the curriculum and applying technology effectively in teaching and learning; Democratize education, offering equal access to learning opportunities and accommodating differing learning abilities, styles, and paces; Increase the participation of stakeholders, creating awareness of their roles and responsibilities, and developing the skills they need for that (Tony, 2010; Omidinia, Masrom, & Selamat, 2016; Government of Malaysia, 2005).

Smart school is a technology-based teaching-learning institution for preparing children with the effective functionality of smart school, which requires skilled staff, and well-designed teaching, and learning and supporting processes. Thus, it encourages active thinking process while its environment motivates students to use personal computers, the internet and intranets as both research and communication tools. Students are able to access online libraries, use electronic mail or combination of desktop video-conferencing, and chat rooms for engaging in tutorials. The idea of the smart school is defined to revolutionize the education system through development of a holistic approach that concerns making value based education available to anyone, anytime, and

anywhere. Implementing smart schools successfully will be a complex task, requiring changes in the teaching-learning processes; management functions; people, skills and responsibilities; and technology (Omidinia, Masrom, & Selamat, 2013). Smart school is a learning school that has been systemically reinvented in terms of teaching-learning practices and school management in order to prepare children for the Information Age (Government of Malaysia, 1997; Wan Ali, Mohd & Alwi, 2009; Ong & Ruthven, 2009).

The concept of Smart School is based on a critical look at the creative teaching and learning processes. Technology is seen as an enabler and will become an important guiding principle of the Smart Schools. In technical jargon, the Malaysian Smart School is a learning institution that has been systemically reinvented in terms of teaching and learning as well as the improvement of the school management processes in order to help students cope and leverage on the Information Age. Smart School is not just about ICT intervention in teaching and learning, the national curriculum and pedagogy are given the highest importance, with the role of teachers, administrators, parents, and the community enhanced in the education of the Malaysian students. Individuality, creativity, and initiative amongst the students are prioritized (Government of Malaysia, 2005). For it to work effectively, the Smart School requires appropriately skilled personnel and supporting processes and the design of a new learning atmosphere that encourages the process of active thinking (Abdalhai, 2009).

Smart schools will seek to make learning more interesting, stimulating, and meaningful. Schools use an appropriate combination of learning strategies to ensure mastery of basic skills and promote the comprehensive development, accommodate different individual learning styles, enhance performance, and to encourage the classroom environment that correspond to the different education and learning strategies (Taleb & Hassanzadeh, 2015). Smart school aims to follow all-round development of students (physical, mental, emotional and psychological), improving individual's promotion and abilities, training thinker and user of technology human resources, and increasing public participation (Soultani, 2012).

Smart school pursues its objectives through a set of principles, including creative knowledge, talent to learn, understanding, learning with control and transfer goals, overcoming difficulties, evaluation learned, and schools as an educational organization (Soultani, 2012).

Smart school have four component with the teaching-learning processes as the core or the “heart” of the Smart School. The processes relating to curriculum, pedagogy, assessments, and teaching-learning materials are reinvented to help students learn more effectively and efficiently. The Smart School enables students to practice self-accessed and self-directed learning at their own learning pace. The management and administration represents the driver or the “brain” of the Smart School, which is computerized. Management software helps the Smart School principals and headmasters to manage more efficiently and effectively the resources and processes required to support the teaching-learning functions. Human resources, skills and responsibilities represent parents, the community, and the private sector as stakeholders, who play more active roles in improving the performance of the school. All

these parties are constantly involved in professional and knowledge development relating to school management, teaching-learning, and other aspects of the Smart School. Processes are viewed as a system. These processes have been and will continuously be studied and reviewed carefully to ensure that the system provides accurate and functional input to produce the desired output. Technology is used as an enabler for Smart School practices in teaching-learning, management, and communications with external constituencies. Policies to ensure the successful implementation of the Smart School, changes in existing policies and regulations, as well as the formulation of new policies and regulations, have to be conducted (Omidinia, Masrom, & Selamat, 2016; Government of Malaysia, 2005; The Department of Education and Information Technology Skills, 2015).

In Jordan, despite the deep challenges of regional crises in Syria and Iraq, refugees pressure on the educational system and other sectors, repeated reviews of the educational process and the development projects and plans such as the project of education development towards knowledge economy and the National Strategy for Human Resources Development (2016-2025), efforts have not been developed to start a national comprehensive review of public schools. These efforts would help to upgrade them to be schools of the future to be able to overcome the challenges of ICT revolution, and prepare individuals who will be excellent in the future. It would also help to confront the challenges of the information age and to contribute effectively to facilitate comprehensive development and competitiveness at the national, regional, and international levels.

Jordanian public schools are still traditional. This is despite the insertion of technology in education and in the development of teaching methods, curriculum modifications, and the development of teacher education programs due to many obstacles, whether regulatory, legislative, social or economic. Therefore, teachers, educators, politicians, and social groups asked the government to give smart school project high priority to enable Jordan society to cope with the developments and help the country to overcome its challenges.

1.1 Problem Statement

Jordanian schools are still traditional schools; however, based on its current status, it is no longer able to carry out the task of preparing the individuals who are able to excel, become innovative and face the challenges of knowledge age, and provide adequate education for the building of the country's future. The researchers noted that Jordanian teachers have different levels of awareness of smart schools and have impious idea about smart school philosophy and rational. To achieve the goals of the study, the study aims to find out the level of awareness of Jordanian teachers of smart school from the perspective of the basic stage teachers. The study answered the following questions:

Question 1: What is the level of teachers' awareness of smart schools in Jordan??

Question 2: Are there statistical significant differences (α=0.05) of the level of teachers' awareness of smart schools in Jordan due to their gender, qualifications and experience?

1.2 Importance of Study

The importance of the study stems from the importance of the subject as a new area of study in Jordan. Therefore, it needs to be examined in order to support the efforts that educational authorities have on the development of the educational system.

1.3 Aims of Study

This study aimed at identifying the teachers' level of awareness of smart schools in Jordan. It also aims at finding out if there are statistical significant differences (α=0.05) of the level of teachers' awareness of smart schools in Jordan due to their gender, qualifications and experience.

1.4 The Study Limitation

The study is limited to a sample from the basic stage teachers (Male and Female) in Al Zarqa Educational Directorate during the academic year 2016/2017.

1.5 Definition of Terms

Smart School: A learning institution that has been systemically reinvented in terms of teaching-learning practices, and school management, to prepare children for the information Age and to promote the goals of the national philosophy of education (Wan, Mohd, & Alwi, 2009).

Teacher: Qualified and professional personnel who practices teaching students in the classroom, in any governmental or private educational institution, and who possess the requirements of the education law and regulations issued in this regard (Jordan Judicial Council, 2014).

Basic Stage: A compulsory Educational stage after KG-2; it continue for ten years. The child is accepted in this stage at age 6. Basic education is aimed at achieving national goals for education and preparing a citizen in all personality aspects: physical, mental, spirituality, emotional and social (Ministry of Education in Jordan, 2016).

Basic Education Teachers

All teachers (males and females), who educated the basic stage students (grades 1-10), in all Public schools under the authority of the Directorate of Education for Al Zarqa second area during first semester 2016/2017.

2. Methodology

The study was a descriptive research of survey type. The methodology is based on collecting quantitative data from study sample using a self-constructed questionnaire.

2.1 Population and Sample

The population of this study comprises of all basic Education Teachers (males and females) from Al-Zarqa Educational Directorate. The population number was 1554 (Ministry of Education, 2015). A sample of 466 teachers was chosen randomly. Table 1 explains the

distribution of study sample according to the study variables.

Table 1. Study Sample due to Study Variables

Variable	Category	Percentage	Number
Gender	Male	36%	168
	Female	64%	298
Total		100%	466
Qualification	B.A	96%	447
	High Diploma	2.5%	12
	MA	1.5%	7
Total		100%	466
Years of Experiences	Less than 5 Y	29.39%	137
	From 5-10 Y	46.35%	216
	More than 10 Y	24.25%	113
Total		100%	466

2.2 Study Questionnaire

The study designed a questionnaire to collect the data from the basic stage teachers in Jordan. The questionnaire was designed after a thorough review of smart school related literature. The questionnaire items contain items that define smart school concepts, aims, nature, and implementation. The first version of the questionnaire consisted of 45 items. The validity of the questionnaire was examined by fifteen (15) reviewers from the school of Educational Sciences at the University of Jordan and Hashemite University. The reviewers suggested several changes and modification. The final version of the questionnaire consisted of 35 items. It was divided into two parts: the first one contains the general information about the participant (gender, qualification, and experience), and the second part contains the questionnaire items. Teachers were asked to state their level of awareness (strongly agree, undecided, agree, disagree, and strongly disagree). Teachers' level of awareness of the concepts, aims, nature, and implementation of smart school were determined according to their agreement to the statements. Attention was given to whether their level of awareness differentiated according to their gender, qualifications, and experience.

The questionnaire reliability was examined using internal consistency method (Cronbach's Alpha Equation) and Pearson Correlation. Cronbach's Alpha Value coefficient score was 0.86 and Pearson Correlation coefficient was 0.84. These results show that the questionnaire has an acceptable reliability. Table 2 shows the reliability results on the questionnaire.

Table 2. The Questionnaire Reliability Methods (Cronbach's Alpha and Pearson Correlation)

Pearson Correlation	Cronbach's Alpha
0.84	0.86

Teachers' level of awareness was analyzed over the grades and the difference between the highest value (5) and the lowest value (1), and the average is 4. However, as we make use of level 3, we divided ¾ so that the result is 1.33. Thus, every level gets 1.33 low level of awareness which become 1+ 1.33 = 2.33 (1– less than 2.33), moderate level of awareness degree which becomes 2.33+ 1.33 = 3.66 (2.33 – 3.66), and high level of awareness which becomes 1.33+ 3.66 = 4. Thus, 4 is the highest point. So, the first level ends at 2.33, second level starts at 2.34 and end at 3.66, while the last level starts at 3.67 until 4 (Abu Al Rub, 2016, cited in Alzyoud, Al- Ali, & Ben Tareef, 2016).

2.3 Data Analysis Methods

Mean scores, standards deviations, t-test and one-way Analysis of Variance (ANOVA) were used in analyzing the study data. In answering question one and two, mean scores and standards deviations were used to find out teachers awareness of smart schools. T-test, one-way Analysis of Variance (ANOVA), and Schiff test were used to answer question two.

3. Findings and Discussions

The findings of the study are presented according to the study questions as follows:

Findings and Discussion of Question One: What is the level of teachers' awareness of smart schools in Jordan?

In answering question one, mean score, the standard deviations, and the level of awareness was calculated as shown in Table 3.

Table 3. Mean Scores, Standard Deviation and the Level of Teachers' Awareness of Smart School in Jordan

No	Item	Mean	Standard Deviation	Level of awareness
6	The Smart School has become a necessity for the political, social, economic and educational development of contemporary nations.	3.84	0.918	High
2	The Smart School is a form of educational renewal and a type of school of the future that adopts a collaborative learning method based on e-learning.	3.83	0.909	High
11	The philosophy of the Smart School is to deepen the principle of participation and collective action to produce individuals distinguished in their	3.81	1.01	High

	identity and value and to deal with the rapid changes in the information age.			
16	To promote individual education in the context of overcoming the ambitions of individuals and achieving their goals within an integrated framework with the collective system.	3.78	0.912	High
12	Promote self-learning and continuous focus on the learner and the educational process.	3.77	0.875	High
13	Link communication and information technology, education and training in a unified framework capable of overcoming contemporary challenges.	3.74	0.936	High
23	The design of the electronic curriculum is based on the construction of education so that it is easy to understand and modified by the learner, and that is the design of education to facilitate exploration and knowledge and expansion.	3.74	0.882	High
3	The Smart School is an educational institution that promotes systematic changes aimed at enabling learners to overcome the challenges posed by the IT information age.	3.73	0.976	High
22	The knowledge structure of the Smart School consists of a learner-centered learning environment.	3.73	0.914	High
8	The smart school system enables the electronic management of the various activities of the school, starting with the attendance and departure systems and the completion of the examination and correction.	3.70	0.972	High
25	The smart school structure includes an electronic infrastructure including electronic classrooms, electronic content, e-learning system and electronic management.	3.70	0.913	High
4	Smart school has positive effects on levels of cognitive achievement, social skills and emotional development of students.	3.65	0.923	Moderate
5	Jordanian public schools are still traditional despite the inserting of technology in education, the development of teaching methods and the qualitative changes in curricula.	3.64	0.898	Moderate
7	The Smart School is a school equipped with electronic classrooms equipped with computers and software that enable students to communicate	3.63	1.03	Moderate

	electronically with teachers and materials.			
1	The Smart School is a necessity as a result of the ICT revolution and its profound changes in various aspects of life.	3.59	0.621	Moderate
17	Taking into account the individual differences between the learners through the opportunities available and the individual's right to lifelong learning according to its circumstances and possibilities.	3.58	0.906	Moderate
9	The Smart School is able to communicate with other schools that work in the same system and also communicate with parents of students.	3.56	0.966	Moderate
15	Reducing the costs of the educational process in return for maximizing benefits and increasing the return of the educational process.	3.52	0.869	Moderate
24	The Smart School curriculum is characterized by providing adequate structural knowledge, increasing the efficiency of the curriculum, enhancing students' learning abilities and increasing the flexibility of the curriculum.	3.48	0.849	Moderate
14	Work on the development of skills and creativity and innovation.	3.45	0.923	Moderate
10	The philosophy of the school smart to develop the abilities of individuals, physically, spiritually, emotionally and mentally.	3.42	0.755	Moderate
18	Achieving the democracy of education and equal opportunities for educated children.	3.41	0.907	Moderate
20	Transfer knowledge to individuals wherever they are and do not require their attendance at school.	3.39	0.715	Moderate
21	Transition of schools to be learning organizations and community institutions that are not separated from the local communities and their realities and problems, and contribute efficiently in the process of comprehensive development.	3.34	0.674	Moderate
19	Promote participatory (or collaborative) education that allows the exchange of experiences among learners and the benefit of each other.	3.30	0.635	Moderate
Total		3.59	0.876	Moderate

Table 3 shows that teachers have a moderate level of awareness as the total mean of the questionnaire was 3.59 with 0.901 standard deviation. In addition, 14 out of the 25 items scored a moderate level of awareness. This refers to the fact that teachers are still traditional in their teaching approaches and methodologies, hence they are not aware of the conceptions

and elements of the smart schools that many countries have adopted. Teachers are usually aware of their practices and what they experience in their schools. As long as they do not experience the elements of smart schools in their schools then they are not aware of them. Therefore, teachers are not aware of the concepts and importance of smart schools within the educational system.

Table 3 shows that item six, "The Smart School has become a necessity for the political, social, economic and educational development of contemporary nations", scored a mean of 3.84 with a high level of awareness among teachers. This refers to the fact that the current era is the period of smart systems and smart technology based on smart educational services and smart schools. In Jordan, the internet and smart devices are part of the life of more than ninety percent of the people, hence, teachers have this level of awareness and are aware that smart technologies are produced by intelligent, well-educated and well-trained learners. The result of this study is consistent with the result of Taleb's (2014) study that found the quality of a nation's political, social and economic future will depend on the capabilities of their young generation. Smart schools have been proposed as a solution to increase the capabilities of the new generation in the era of ICT.

Item two, "The Smart School is a form of educational renewal and a type of school of the future that adopts a collaborative learning method based on e-learning", scored a mean 3.83 with a high level of awareness. Teachers know that collaborative learning and e-learning are essential components of any modern school as well smart schools. These concepts and initiatives are what the in-service training and preservice educational degrees and training focus on in Jordanian universities and at the Ministry of Education.

Item eleven, "The philosophy of the Smart School is to deepen the principle of participation and collective action to produce individuals distinguished in their identity and value and to deal with the rapid changes in the information age", scored a mean of 3.81 with a high level of awareness. Teachers are well educated with the modern and advanced educational benefits from the adopted educational systems that have been made available to students in order to prepare and produce distinguished individuals. This is consistent with Wan, Mohd, and Alwi (2009), cited in Taleb (2014) who stated that Smart Schools are educational establishments that adopt instructional processes and educational management practices that foster systemic changes intended to enable learners to surmount the challenges posed by the information technology era.

Item nineteen, "Promoting participatory (or cooperative) education that allows the exchange of experiences among learners who then benefit from each other", has scored the lowest mean of 3.30 with a moderate awareness level among teachers. The focus on technologies and smart devices in smart schools may mislead teachers to believe that students will be prepared to work individually and have limited interaction with others. Smart schools rely heavily on smart educational and learning systems as well as a smart school educational environment. The smart school environment is based on information and communication technology that can make schools more efficient and productive as it can provide a variety of means to promote and facilitate teachers' professional activities (Kirschner & Wopereis, 2003,

cited in Firoozi & Kazemi, 2017).

Schools are currently undergoing a transition to become learning organizations and community institutions that are not separated from the local communities and their realities and problems, and that contribute efficiently to the process of comprehensive development. This is item twenty-one that scored a mean of 3.34 with a moderate level of awareness among teachers. Teachers have a classical view regarding the role of schools in their communities: schools are places for teaching and learning activities during the school day with limited roles and interaction with their communities. In smart schools, the concept is different as schools are required to be learning organizations that are part of their local communities. Being part of the community means that schools need to open their resources and facilities to serve the local area as well as to help in solving its problems.

Item twenty, "Transfer knowledge to individuals wherever they are and do not require their attendance at school", scored a mean of 3.39 with a moderate level of awareness among teachers. The majority of Jordanian teachers still teach and work in traditional environments and believe that students have to interact with the curriculum and teachers in face-to-face mode.

Findings and Results of Question Two: Are there statistical significant differences (α=0.05) of the level of teachers' awareness of smart schools in Jordan due to their gender, qualifications and experience?

To answer this question, T-test was used to find if there are statistical significance differences in sample study concept of smart school. In addition, the one-way-ANOVA analysis was used also to find if there are statistical significance differences (α=0.05) due to the variables years of experience and scientific qualification as shown in Table 6, Table 7, and Table 8.

Table 6. Results of T-test for the Statistical Differences due to Gender

Gender	Sample (N)	Mean	Standard Deviation	T- ratio	Degree of Freedom	Sig.of T
Male	168	3.597	0,892	2.11	464	0.036
Female	298	3.764	0,782			

The results in Table 6 show that there are statistically significant differences due to the gender variable. The value of (T) was 2.11, which is statistically significant at the level of significance (α = 0.05). The differences were in favor of females with a total mean sore score of 3,764 and a standard deviation of 0.782; while in male, it has a total mean score of 3,597 and a standard deviation of 0.892. This result can be explained by female positive attitudes toward the education job more than male teachers. Thus, males have negative attitudes towards teaching job.

Table 7. Results of One Way Analysis of Variance due to Scientific Qualification

Scientific Qualification		Sample (N)	Mean	Standard Deviation	
Bachelor		447	3,69	0,829	
High Diploma		12	3,78	0,778	
Master		7	4,05	0,708	
Source of Variance	Sum of Squares	Degree of Freedom	Average of Means	F- Ratio	Sig. of F
Between Groups	1,022	2	0,511	0,474	0,748
Inside Groups	316,175	463	0,683		
Total	317,197	465			

The results in Table 7 show that there are no statistically significant differences due to the variable of scientific qualification. The value of (P) is 0.748, which is not significant at the level of significance ($\alpha = 0.05$). The majority of the sample of the basic stage teachers has the same degree (bachelor level). As such, their scientific levels, convocations, and their intellectual orientations are similar.

Table 8. Results of One Way Analysis of Variance due to Years of Experiences

Years of Experiences		Sample (N)	Mean	Standard Deviation	
Less than 5 years		137	3,64	0,757	
From 5-10years		216	3,70	0,892	
More than 10 years		113	3,91	0,775	
Source of Variance	Sum of Squares	Degree of Freedom	Average of Means	F-Ratio	Sig. of F
Between Groups	5,133	2	2,566	3,757	0,024
Inside Groups	316,272	463	0,683		
Total	321,405	465			

The results in Table 8 show that there is a statistical significance difference due to the variable number of years of experience. The value of (P) is 3,757, and the level of the significance is $\alpha = 0.05$. To find out the source of differences, the Scheffe test was used as shown in Table 9.

Table 9. Results of Scheffe Test

Variable	Less than 5 years	From 5-10 years	More than 10 years
Less than 5 years	---	-0.062	-0.275
From 5-10 years	0.062	---	-0.213
More than 10 years	0.275	0.213	---

The results in Table 9 shows that the source of differences were in favor of a category (over 10 years). These results can be explained by their long experience in teaching and administrative works in educational system, and their job stability compared to less Experience. This is done so that they have more ability to understand and accept the new concepts and future models. In addition, they are used for the development and modernization of education, where they may see greater benefits than expected risks.

4. Conclusion and Recommendations

One of the most important elements of contemporary educational systems worldwide is the implementation of information and communication technologies and cconsequently the establishment and development of smart schools. This change in focus requires national policies that construct smart school philosophies, requirements and implementation plans to be effective. Teachers are required to be well educated, well prepared and well aware of the importance of smart schools and the benefits they bring to the students and the future of the country. This study has discovered that Jordanian teachers have different levels of awareness of the smart schools philosophy, principles, requirements, and benefits. Teachers are aware of some elements of smart schools and are not aware of others. Teachers have a high level of awareness that smart schools have become a necessity for the political, social, economic and educational development of contemporary nations. Meanwhile, their awareness is only moderate on the role of smart schools in promoting participatory education that allows the exchange of experiences among learners who benefit from each other. In addition, their awareness is moderate on the role of smart schools in the transition of schools to become learning organizations and community institutions that are not separated from the local area and its realities and problems, and that contribute efficiently to the process of comprehensive development.

In light of the findings, the researcher recommends the following:

- The Ministry of Education should start an awareness and guidance training program for the teachers of the basic stage about the smart school concept, philosophy, aims, and the benefits of smart schools (on education and economy) as strategic project of the future. The study recommends that emphasis should be placed on male primary stage teachers and those with teaching experience below 10 years in the light of the findings.

- The Ministry of Education and all related departments in the development of education in Jordan should study the outstanding international experiences in the smart schools, especially, the experiences of East-Asian countries such as Malaysia and Singapore, due to the similar circumstances of these countries in the past with the conditions of Jordan.

- The Ministry of Education can benefit from these countries experiences through experts exchange, technical support, feasibility studies, and training programs.

- The Ministry of Education, the Ministry of Communications and Information Technology, and the related departments in the education and information technology sector should enhance the use of ICTs in Jordanian schools for teaching and learning, and start strategic nationals to develop the infrastructure of public schools into smart infrastructure.

- The Ministry of Education, in cooperation with the Jordanian universities and the official research institutions, should conduct scientific studies on smart schools in Jordan as a national strategic option. These studies should focus on survey studies, smart school requirements, challenges and obstacles, and the point view of teachers, students, principals, and the participations with private sectors and stakeholders.

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