Knowledge Work Supervision: Transforming Omani Schools into Learning Organizations[*]

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Abstract

The main aim of this paper is to examine the Knowledge Work Supervision model as a paradigm that offers possible solutions to enhance teaching and learning in schools throughout the Sultanate of Oman by transforming those schools into learning organizations. In the 21st Century Information Age society, educational supervision can become a vital role to improve teachers' performance if that process is transformed from an inspectorial model to a knowledge-creation model. Yet, in the Sultanate of Oman, teacher supervision is still based on the inspectorial approach to supervising teachers. A model of supervision that views schools as learning organizations and teachers as knowledge workers is Knowledge Work Supervision (KWS) (Duffy, 1995, 1997; Duffy, Rogerson & Blick, 2000). By adapting the KWS model, teachers will become effective knowledge workers and the Omani schools become learning organizations.

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1 Introduction

The nature of educational supervision is changing as modern societies evolve into the Information Age. This evolution presents schools, school systems, and their communities with significant challenges for educating children. One of these challenges is that the new knowledge-based economy (i.e., the Information Age economy) has put pressure on the school systems to achieve children academic potential. Another challenge is making them accountable for creating and enforcing high performance standards for teachers and students.

To meet the above challenges, and others not listed, schools must be transformed to become learning organizations that provide children with a high quality education, that offer teachers a satisfying and motivating work life, and that have positive and beneficial relationships with their communities (Duffy, 2007). To achieve these aims teachers and administrators should be proactive and innovative when envisioning how they transform the school systems. They must also be prepared to cope with the great changes encountered in almost all fields in the 21st century (Perkins & Shaw, 1992; Agaoglu, 2006). A new supervision paradigm that the researchers believe can achieve the above transformation goal is Knowledge Work Supervision (KWS) (Duffy, 1995, 1997; Duffy, Rogerson, & Blick, 2000). By adapting that paradigm to fit the Omani education context, the KWS will lead to the desired transformation of the system and individual schools.

2 Research Problem

The main thesis of this paper is that the education system in the Sultanate of Oman requires a new paradigm for supervising teachers, a paradigm that is better aligned with the reforms currently underway in Oman as well as with the requirements of the 21st Century Information Age.

Traditional supervision focuses on the observation of the classroom behavior of individual teachers. Knowledge Work Supervision shifts the focus of supervision off of individual teachers on to improving schooling (i.e., to improving the teaching and learning processes). Within the context of Knowledge Work Supervision teaching and learning are improved by engaging educators in structured activities that create and disseminate professional knowledge throughout an entire school system and its individual schools.

In the Sultanate of Oman, in practice, the dominant approach to supervision continues. The main goal is to help teachers improve teaching and grow professionally by focusing on the classroom behavior of individual teachers with the hope that if only enough teachers improve, the entire school or school system will improve (Duffy, 1996, p. 26). This approach, however, cannot and never will transform an entire school system into a learning organization.

The transformation can be achieved by adopting and adapting a model of supervision specifically created for schools and school systems that are learning organizations and that view teachers as knowledge workers. The Knowledge Work Supervision (KWS) model is "...an evolutionary step for the field of instructional supervision" (Duffy, 1996, p. 240) that is intended to help teachers, principals, educational supervisors to transform an entire school system into learning organizations.

This paper will describe the KWS model and outline how that model can enhance the Omani school system by transforming them into learning organizations. To explore the main thesis of the paper, the following questions will be posed and answered:

1. What are the main characteristics of the Omani approach to supervising teachers?
2. How is knowledge created within an organization?
3. How do the learning organization and knowledge creation concepts fit in the context of schooling?
4. How can Knowledge Work Supervision be adapted to fit the Omani education context?
5. What are the main features of the Knowledge Work Supervision paradigm?
6. How can the Knowledge Work Supervision model be adapted to fit the Omani education context so that the Omani education system and its individual schools can be transformed into learning organizations?

To answer the above questions, the researchers used a qualitative research design. Qualitative data derived from official documents and literature reviews were collected and analyzed.

3 The Main Features of Educational Supervision in Oman

With respect to The Sultanate of Oman, the Ministry of Education (MoE), stipulated the establishment of educational supervision offices in each region. These offices are in charge of reinforcing the technical as well as administrative supervision. The supervision system is organized administratively as follows:

1. Each subject has a chief supervisor who manages eleven senior supervisors (one in each region). Senior supervisors in turn manage up to 21 regional supervisors.
2. Each regional supervisor has a number of schools that she/he visits on a regular basis.
3. Senior teacher at the school level, supervise teachers according to their subjects.

Educational supervision in Oman has undergone many changes in recent years, culminating in the creation of a new Educational Supervision Department (ESD) in 2003. The ESD has responsibility for implementing the teaching-learning process in all schools. The rationale behind the ESD initiative lays in the fact that each school is increasingly seen as a single entity which should be allowed to be autonomous and responsible both for delivering the curriculum effectively and also for ensuring successful learning by its students. At the national level, the responsibility of supervising these reforms initiatives is within the function of the inspectorial system based at the school level. The ESD initiative represents a new move away from the generally centralized nature of the supervision system to one where the senior teacher in each school can make decisions.

Following a review of a consultancy report (MoE, 2000) on developing a system for reviewing the work of schools, the MoE introduced the School Performance Evaluation Project (SPEP). The aim of this project is to establish national criteria for school performance and to introduce a comprehensive system of school self-evaluation, which is complemented by occasional, but thorough, external evaluations. In general, the MoE uses a combination of evaluation, external inspection and school self-evaluation.

A major concern of most supervisors at the MoE level in connection with the supervisors' performance at the school level is that the school-based supervisors lack theoretical and practical knowledge and skills for supervising. They also lack the knowledge and skills for using inspectorial strategies such as professional development, quality assurance, teacher professionalism, research that would enhance performance of schools as learning organizations. Given the recent reforms initiated in Oman to improve the education system and given the shortfalls of the current inspectorial approach to supervising teachers, the researchers recommend the adoption and adaptation of the KWS paradigm that offers a solution to overcome the negative supervisory practices.

4 Knowledge Created Within an Organization

Teachers are knowledge workers. A term was first coined by Drucker (1991), knowledge work is "white collar" work with knowledge as the foundation of job performance. The tools of knowledge work are metaphors, analogies, concepts, principles, and information. These tools are inside the heads of educators.

There are two kinds of work processes in knowledge organizations: linear and non-linear. Linear work in a school system is the instructional program that children participate in from the time they enter school to the time they leave schools. The instructional program is composed of a linear sequence of learning activities organized as curricula, courses, and grade-levels. Knowledge work is non-linear, and teaching is knowledge work and therefore, is non-linear. Ward (1994) asserts that knowledge takes two forms: rules-based and context-based knowledge. Most knowledge, according to Ward, is context-based. Because effective teaching varies with the context of a particular classroom, teachers are knowledge workers using context-based knowledge.

Polanyi (1967) identified two kinds of knowledge, namely tacit knowledge and explicit knowledge. Tacit knowledge belongs to individuals, it is not verbal, nor intuitive, and it is not crystallized in a written way. Rather, tacit knowledge is developed from direct experience and action and usually shared through highly interactive conversation (Nonaka, et al., 2000; Lam, 2000; & Zack, 1999). The forms of tacit knowledge include negotiating contracts, reconciling personal differences, and evaluating staff (Wong & Radcliffe, 2000).

By contrast, explicit knowledge, according to Polanyi (1967), is formally articulated and it is more precise. It can be transmitted or communicated because it can be expressed in a formal way using a set of symbols (Choo, 2000). Most explicit knowledge exists in school systems and schools in the form of documents that contain the work experience of the school staff; e.g., portfolios, text books, databases, reports, and observation forms.

The KWS paradigm is built on the theory and practice of knowledge creation and its tools and processes are designed to transform tacit professional knowledge into explicit professional knowledge that can be shared. Nonaka and Takeuchi (1995) conceptualized a knowledge creation model they called the SCEI model (see Figure 1 below). Their model has four stages: Socialization, Externalization, Combination and Internalization (SECI).
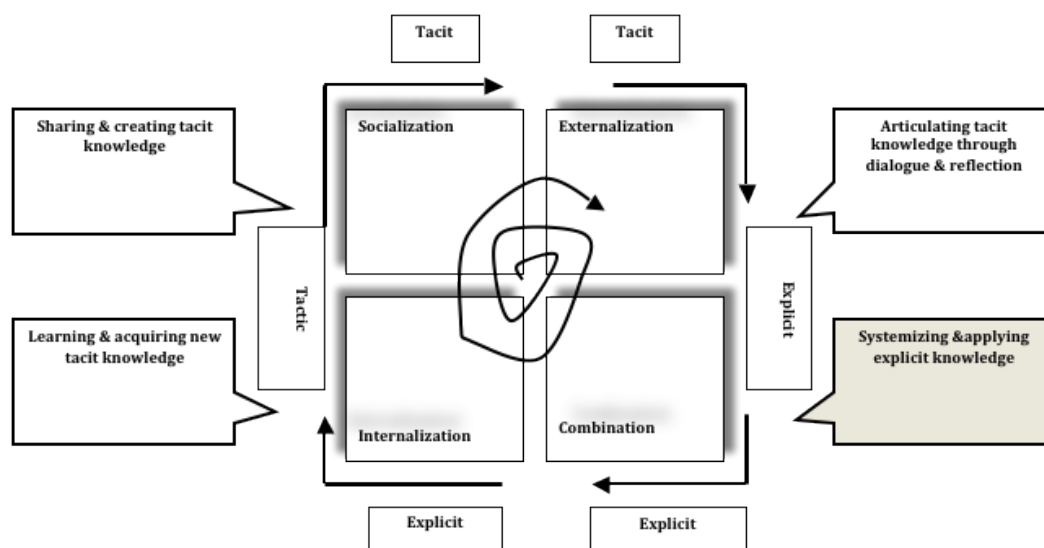
Figure (1): The SCEI Model of Knowledge Creation

5 The Learning Organization and Knowledge Creation in the School Context

Garvin (1993) describes a learning organization as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights." The hallmarks of a learning organization, according to Senge (1990a), are (1) systematic problem solving, (2) experimenting with new approaches, (3) learning from experience, (4) learning from the experiences of others, and (5) transferring knowledge quickly and efficiently throughout the organization. The researchers believe that a school system and its individual schools can create the above characteristics of a learning organization by using Knowledge Work Supervision.

In recent years, since the emergence of Peter Senge's work (1990b),a number of educators have advocated that schools should transform to become learning organizations (e.g., Fullan, 2003; Leithwood & Louis, 1998; Reeves & Boreham, 2006). Historically, Argyris and SchÖn (1978) building on the work of Ashby (1952), developed the idea of a learning organization in the context of management theory. Then, Peter Senge (1990b) made the learning organization concept popular. Definitions of the term have proliferated in the literature (e.g., Kontoghiorghes, et al., 2005; Loermans, 2002; Calvert, Mobley, & Marshall, 1994; Sankar, 2003, Coppieters, 2005).

Senge (1990b) defined a learning organization as "one where collective aspiration is set free, and where people are continually learning how to learn together" (p. 3). Pedler et al. (1991) defined it as "one that facilitates the learning of all its members and continuously transforms itself" (p. 5). Field and Ford (1995) stated that a learning organization is "An organization with a well developed capacity for double-loop learning" (p. 15). Generally, the literature characterizes a learning organization as one that learns, reflects, adapts to change, shares experiences, creates knowledge and continuously improves (Sarkar Arani, et al, 2007; Silins & Mulford, 2002; Senge et al., 2000, Senge, 1990b).

A review of the literature yielded five main characteristics and management practices considered to be the key conditions for creating a learning organization. These are: clarity of mission and vision, leadership commitment and empowerment, experimentation and rewards, effective transfer of knowledge, and teamwork and group problem solving (Goh, 2003, p. 218).

It includes designing activities to capture knowledge, to create knowledge, and to empower staff to internalize and transfer knowledge. This level of insight and understanding becomes the school system's path to change and success (Mitchell & Sackney, 2000).

However, given what we know about creating learning organizations, it is clear that educational supervision that follows the traditional inspectorial model of supervising teachers cannot and will not transform school systems into learning organizations.

6 The Knowledge Work Supervision Paradigm

Knowledge Work Supervision is an approach that shifts the focus of supervision off individual teachers and places it on helping school systems and the schools within, to transform into learning organizations. Duffy (1997, 2006, 2007) argues that transformational change must create and sustain simultaneous changes along three change paths:

- Path 1—transform the system's core and support work;
- Path 2—transform the system's internal social infrastructure; and,
- Path 3—transform the system's environmental relationships.

The creation and use of professional knowledge is at the centre of the KWS paradigm. KWS is also based on the premise that school systems and the individual schools within, are knowledge organizations and that teaching is knowledge work. Although teachers use computers, follow predesigned curricula, and use intricately designed lesson plans, their primary tool is the knowledge inside their heads.

Finally, the KWS paradigm is derived from socio-technical systems design theory (e.g., Pasmore, 1988; Pava, 1983. The KWS structure and processes are also informed by complexity and chaos theory (e.g., Reigeluth, 2010), knowledge management theory (e.g., Nonaka & Takeuchi, 1995), organization theory and design (e.g., Daft, 2006), and principles of organization development (e.g., Cummings & Worley, 2001).

Duffy constructed and developed his paradigm by reviewing the practices of several interrelated areas: socio-technical system design, knowledge work, knowledge creation, quality improvement, learning organizations, business process reengineering, and organization development. The paradigm is designed to help educators to transform their school systems by making simultaneous improvements along the three change-paths.

To engage the system in transformation activities, the system is organized into clusters of schools. Duffy recommends that the KWS process begin with a small number of carefully selected academic clusters to ensure that the first round of KWS is successful.

The KWS paradigm is powered by three key players (Duffy, 1997, p. 27):

1. A system-wide Steering Committee that provides strategic leadership for the transformation process;
2. Cluster-based Redesign Management Teams that create specific change proposals for the schools within their clusters and that provide tactical leadership for the redesign initiative; and,
3. Knowledge Work Supervisors who are specially trained to lead whole-system change, skilled in the process of organizational redesign.

The KWS paradigm has four phases (shown in Figure 2), each of which has multiple steps (identified in Figure 3).
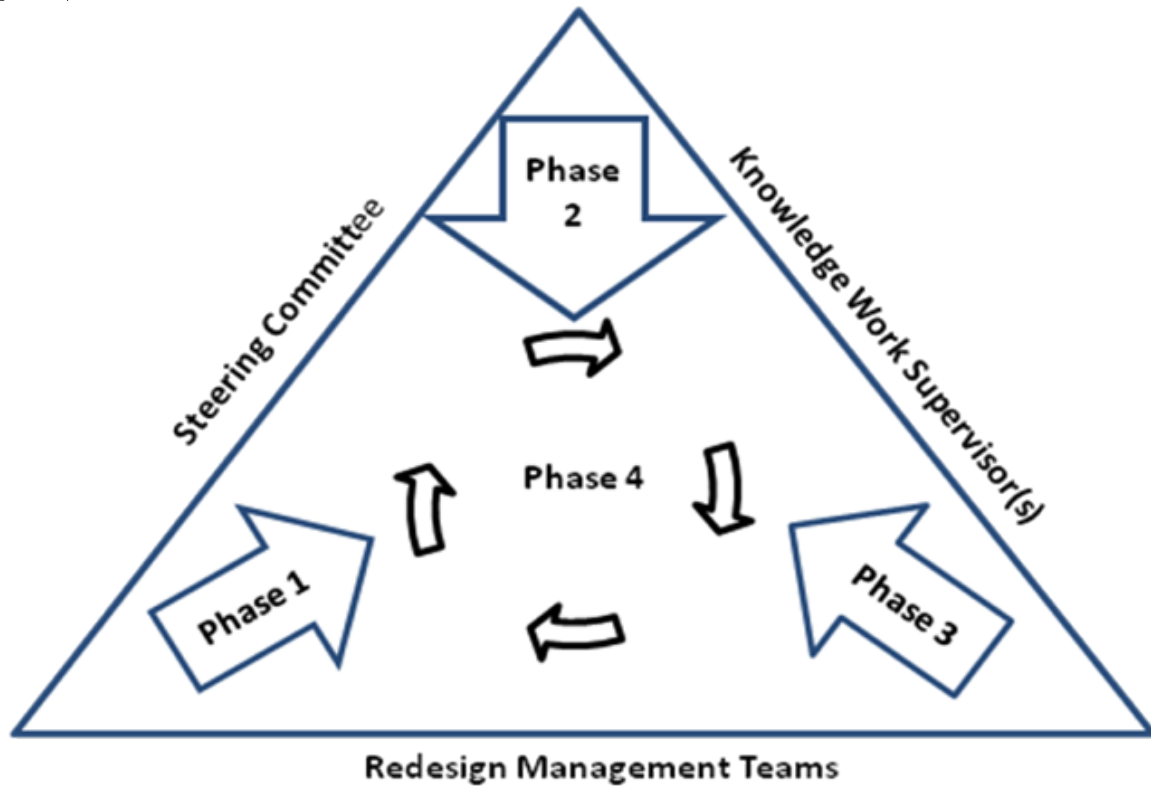

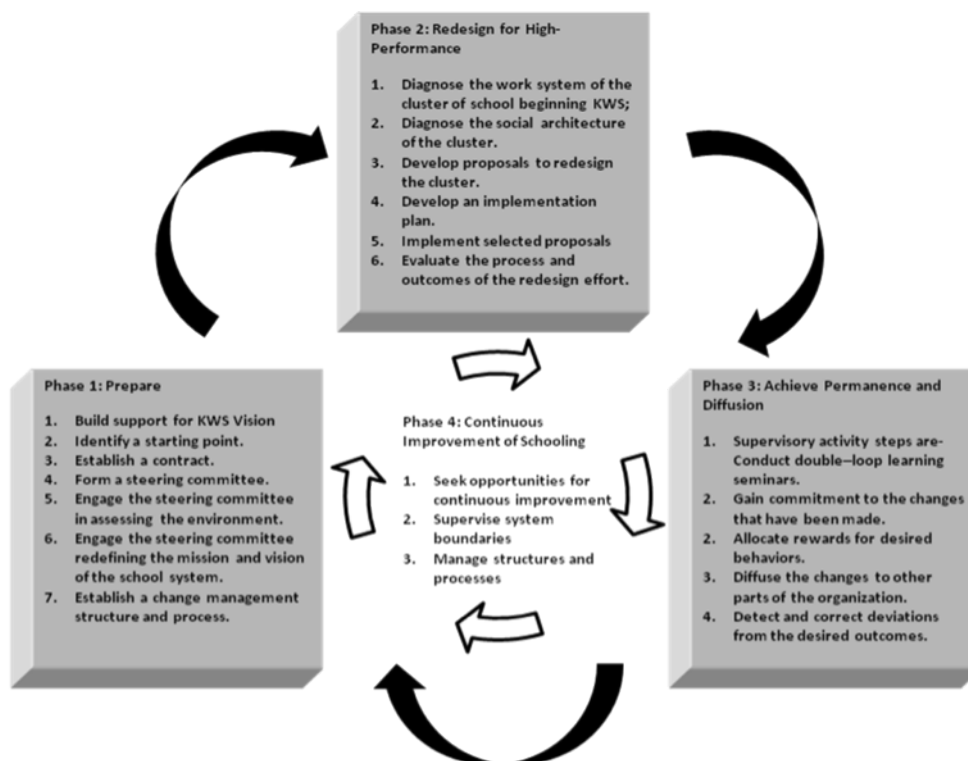**Figure (2): The Structure of the KWS Model**

Figure (3): Steps in the Four KWS Phases

7 The Knowledge Work Supervision Paradigm in the Context of Omani Schools

The researchers believe and are advocating that by adopting and adapting the KWS paradigm, it will lead to a significant increase in student achievement, in teaching effectiveness within the Omani schools. In addition the creation of strong professional learning communities (e.g., as described by Hord, 1997 and Cochran-Smith & Lytle, 1999).

To adopt the KWS paradigm will require significant knowledge and skill-development for teachers and administrators through carefully designed training activities. Furthermore, teachers and administrators must become aware of their responsibility towards creating and sharing knowledge within their schools and that their individual learning, as well as their school's organizational learning, is a lifelong journey. Therefore, the researchers are recommending that Duffy's KWS paradigm be adapted by adding an introductory phase that will become a new Phase 1 in that model. See Figure 4.
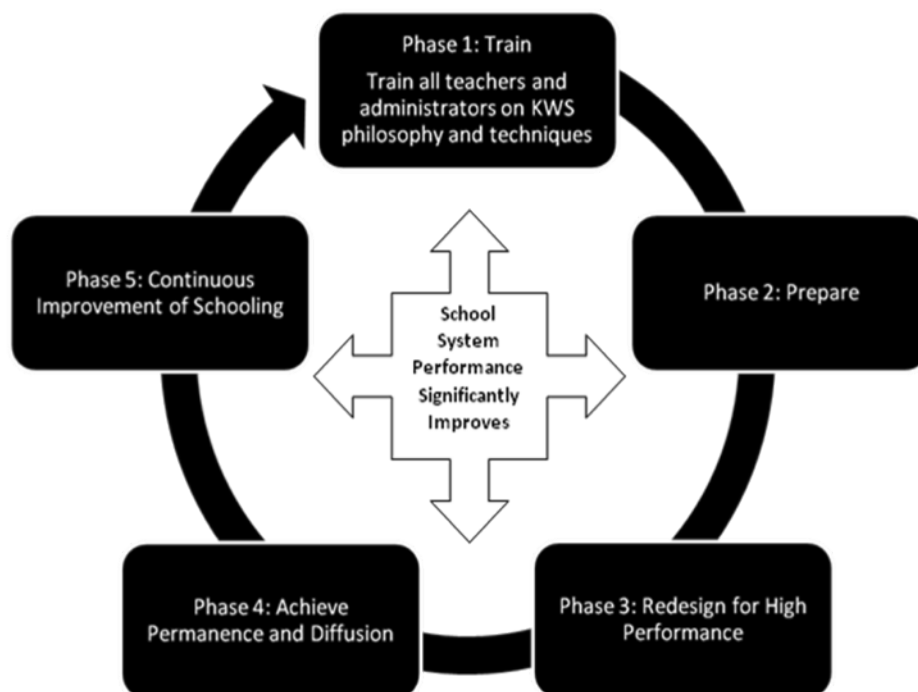
Figure (4): The KWS Paradigm Adapted to Fit the Omani School Context
The model suggested will achieve the following objectives:

- Provide a regular space for the supervisees to reflect upon the *content* and *process* of their work;
- Accelerate the creation and transfer of knowledge throughout the Omani education system;
- Ensure each Knowledge Work Supervisor is not left alone to carry unnecessary difficulties, problems, and challenges;
- Provide educators with space to explore motivation, express personal satisfaction, and to analyze their personal performance;
- Provide educators with a powerful reason to plan and utilize the school staff's personal and professional skills and abilities;
- Motivate educators to be pro-active rather than re-active for the entire life of the school and school system; and,
- Ensure the quality of traditional supervisory activities that are still necessary for working to help individual teachers to improve their performance.

8 The Structure of the Modified KWS Process

The researchers are proposing modifications to the original KWS process so that it fits within the Omani education context. The modified KWS model has five phases.

Phase 1: Training

Phase 1 of the modified KWS model will concentrate on training of school teachers, senior teachers, and administrators to develop the capacity to use the KWS model effectively. Capacity-building will focus on developing new knowledge and skills for transforming the Omani school system and its schools. Highly effective training programs are needed to prepare members of the school community and coach them on the application of the model's principles and procedures. The training program objectives are to familiarize teachers and administrators with the theoretical and practical application of the KWS. Training content should cover techniques of systems thinking, systemic change, knowledge creation, knowledge management, schools as learning organizations, strategic management, empowerment, strategic leadership, schools as social

organizations, teaching/learning strategies that provide Omani children with a superior education, coaching techniques, performance assessment tools, models of supervision, and emotional intelligence. Duffy (2009) created a framework of professional standards for change leadership. These standards also can be used to design the training workshops for Omani educators.

An orientation course introducing Omani educators to the KWS philosophy and to the nature of schools as learning organizations would be vital before launching the new Phase 1. The training activities should be integrated with each school's professional development plan.

Phase 2: Prepare

The preparation phase is based on forming what Duffy refers to as Organization Learning Network" within each school. Organization Learning Networks (OLNs) are created using principles of Professional Learning Communities (e.g., see DuFour, Eaker & DuFour, 2008). The OLNs are designed to provide educators with the space to engage in dialogue, individual learning, and team learning.

Creating OLNs is crucial for the success of KWS and for transforming schools into learning organizations, for, as Senge observed, learning networks are "...the key to learning in organizations" (1990b: 236). Within the context of Omani schools, the researchers envision Organization Learning Networks created for existing subject-matter teams and for administrative personnel. This phase should be implemented through the following steps:

- Orientation of school communities, building support for reform, and sharing the KWS vision;
- Creating a Redesign Management Team (RMT) within each academic cluster to manage the change process within the clusters.
- The RMT is in charge of helping each cluster to create a vision statement, mission statement, strategic goals, and operational goals that will transform their clusters and individual schools within the clusters.
- The Steering Committee diagnoses the school system's relationship with the local environment.
- The Steering Committee, in collaboration with the Redesign Management Teams, will create a comprehensive proposal to transform their school system by making simultaneous changes along the three change paths identified earlier.
- Through the Steering Committee, educators in the academic clusters and within each school within the clusters will assess their cluster's external environment and their internal social infrastructure (which includes organization culture, the reward system, levels of motivation and job satisfaction, and job descriptions). The outcomes of the analysis will result in specific proposals for making significant improvements in the relationships with the external community and improvements to the quality of work life in the clusters and schools.
- Educators in the schools will create (OLNs) to facilitate individual and team learning. In those OLNs, educators will frame and define their dreams and visualize how their schools should function as learning organizations.
- Organize the Omani school system into academic clusters whereby each cluster would be responsible for creating and sustaining transformational change.
- To achieve this phase successfully, more freedom and shared responsibility should be delegated to educators in each school within each academic cluster while at the same time ensuring that there is alignment between what they are doing in their schools with the Omani national school system's vision. This principle is what Duffy (2006) calls "creating strategic alignment."
- Commitment from all of the academic clusters throughout Oman to support the transformation journey will help to speed up the reforms and facilitate the achievement of strategic goals.

Phase 3: Redesign for High-Performance

The Omani school system is a nationwide system. Within that system, there are multiple regions and within each region, there are several individual schools. The researchers believe that these schools can be clustered whereby each academic cluster, and each school within the cluster, would become a learning organization. As more and more clusters are transformed into learning organizations, the entire Omani education system would eventually be transformed. It may be possible to organize the Omani school systems

into academic clusters that contain the three levels of schooling that is, basic education grades1-10, post basic education 11-12 grades). Phase 3 includes the following steps:

- Analyze the Omani school system's core and support work processes, its internal social infrastructure, and its relationship with the external environment.
- Use the data collected from the first activity to develop proposals to redesign the academic clusters in the school system and individual schools within the clusters.
- Create redesign proposals that focus on creating change along the three change paths identified earlier and they must propose strategies for how the academic clusters and individual schools can create and disseminate professional knowledge throughout the clusters and individual schools within the clusters.
- Form OLNs, (based on principles of professional learning communities) are created to facilitate individual and system learning.
- A plan to implement the redesign proposals must also be developed during this phase, called a "transition plan."
- Implement the redesign proposals.
- Apply formative and summative evaluation tools to evaluate the KWS process and outcomes.

Phase 4: Achieve Permanence and Diffusion:

During Phase 4 of the modified KWS model, the RMTs in the various academic clusters that were created earlier in the process will set up activities where the Nonaka and Takeuchi SECI model of knowledge creation (describe earlier) will be implemented to create and disseminate professional knowledge throughout the clusters and the Omani national education system.

Within each academic cluster, educators will create OLNs within which educators will surface their tacit knowledge, make that tacit knowledge explicit, and then design strategies for sharing the best of that explicit knowledge throughout the academic clusters. Examples of the explicit knowledge that could be created include knowledge about curriculum, teaching and learning strategies, students' performance, formative evaluation, and parental involvement in the education of their children. The explicit knowledge will gradually be embedded into the policies, procedures, and managerial structures of each school and cluster; thereby converting the new explicit knowledge into system-wide tacit knowledge. The specific KWS activities that support Phase 4 are:

- Conduct double-loop learning seminars (Argyris & Schön, 1978). The purpose of the seminars is to exchange accumulated experiences by educators in the clusters.
- Re-tooling the reward system in ways that recognize and reinforce behaviors.
- Expect KWS to manage the information that passes between levels of schooling and the school system by using high quality communication strategies.
- Ensure that the changes are spread to all clusters throughout Oman.
- Acquire and maintain high-level political support for the changes that have been made. As a matter of fact, many projects that had been implemented in Oman were subsequently terminated or diverted because of lack of continuous support.

Phase 5: Continuous Improvement of Schooling

Nonaka and Toyama (2000) stressed that any changes have to be actualized through action, practice, and reflection so that it really becomes knowledge of one's own. This phase requires on-going professional development activities to help educators acquire the knowledge and skills they need to perform effectively within their redesigned schools. Some of this on-going training could be designed by using clinical supervision (e.g., Cogan, 1973), competency modeling (e.g., American Society for Training and Development, 2009), and performance technology (e.g., Van Tiem, Moseley, & Dessinger, 2004).

Phase 5 includes the following activities:

- The Steering Committee, RMTs, and Knowledge Work Supervisors implement a Policy of Continuous Improvement and use formative and summative evaluation strategies to evaluate the change processes and outcomes.

- By using PCI, errors in the teaching and learning process will be detected and corrected before they cause serious learning deficits for Omani pupils.
- If only a few academic clusters complete the KWS process, schools throughout Oman must also begin their transformation journeys. All Omani schools can be organized as a sequential process whereby a few carefully selected academic clusters would begin the KWS, then, another set of academic clusters would start the process. Academic clusters who successfully complete the KWS could then become "consultants" to others.

Phase 5 would continue until the entire Omani national education system is transformed. During Phase 5, the KWS transformation process should also go beyond the boundaries of the academic clusters and their individual schools to help the clusters and the schools to improve their relationships with their external environments (Path 3 of the KWS transformation process), such as the Ministry of Education.

9 Conclusion

The central focus of KWS model is to transform Omani schools into learning organizations. This transformation is achieved by introducing a supervisory process that shifts the focus of supervision off of the behavior of individual teachers on to the performance of the entire Omani education system.

KWS was designed to create and sustain transformational change in school systems. The KWS paradigm views schools as learning organizations and teachers as knowledge workers. KWS has processes and tools that generate and develop professional knowledge that can be used to provide Omani children with a superior education and that can facilitate the professional development of teachers, supervisors, and administrators.

KWS focuses on transforming a school's core and support work processes (its technical system—Path 1 in the KWS process) and on transforming its internal social infrastructure (its social system—Path 2 in the KWS process) in ways that help a school to become a learning organization. The integration between a school's technical system and its social system is absolutely necessary for creating a high-performing learning organization. The KWS process also requires schools to improve the relationships they have with other systems outside of the schools (Path 3 in the KWS process).

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