

# How Kuwaiti School Teachers Find and Organize Information to Support Learning and Teaching Activities?

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## Abstract

*Structured interviews with teachers in Kuwait indicated that they were well aware of the role of information in learning and teaching activities. Teachers make use of a variety of information sources and keep important information for future use employing different categories and structured folders. They regularly use social media and personal information management tools in their information gathering activities. However, they are not regular in managing their personal collections of information. Teachers reported that they experienced anxiety as a result of fragmentation and information overload and expressed interest in receiving training to enhance their personal information management skills.*

## 1. Introduction

It is important that teachers are proficient in finding information that can effectively support their teaching activities. They need to be comfortable in activities needed to gather, store, maintain, use and re-find information. These activities are referred to as personal information management (PIM). The explosion of information in the digital environment requires use of technology and appropriate tools to perform PIM activities in an efficient manner. Adoption of proper practices for organizing and managing the information collected or received is considered essential for effective information management.

We conducted a study to investigate the information finding activities of schoolteachers in Kuwait. The study focused on the following research questions:

1. How do teachers find and re-find the needed information?
2. How do teachers organize and keep information for future use?
3. What information management behavior is adopted by teachers in Kuwaiti Schools?
4. What difficulties do teachers face in personal information management?

Results are expected to provide data for taking steps to improve personal information

management practices in schools to support learning and teaching in schools.

## 2. Theoretical Orientation

Diekema and Olsen, [1] stated that a well-organized information space supports teachers with necessary information when they need it. It is important having the right information in the right place and right form to meet the academic needs. Carlson and Reidy, [2] highlighted that teachers need appropriate tools to deal with information in the workplace. They asserted that teachers need to adopt appropriate practices for organizing and keeping information collected or received. Teachers ought to use online resources to supplement textbooks, demonstrate digital libraries to students, increase student engagement with the material, and increase the richness of their instruction.

Barreau, [3] rightly pointed out that an important consideration in finding information for teachers was its relevance to their teaching activities. Tanni, Sormunen, and Syvänen, [4] stated that teachers are generally overwhelmed with the large amounts of information returned to them and need to be selective in using information. Pattuelli, [5] considers it important to be able to assess the information for quality and relevance. Perrault, [6] explains this phenomenon from the perspective of biology teachers as they try to reduce the amount of information in the seeking process to overcome information overload.

Mizrachi and Bates, [7] highlighted the importance of organization of information. They recommended that tagging will be helpful to locate documents by recalling the key names or topics to re-find information from relevant folders. Good information management practices of teachers in schools benefit individuals in the whole system which includes heads, librarians, and curriculum developers and policy makers.

Sun and Belkin, [8] pointed out that teachers work in a complicated information environment containing both digital and physical information. This complex environment prepares information literate teachers with competitive characters to boost learning. Teachers look for new information needed to be used in their work and try to re-use the information earlier found. Re-finding involves remembering and

recalling particular pieces of information earlier found but might not on fingertips of teachers.

Bota, Bennett, Awadallah, and Dumais, [9] explained the importance of use of appropriate tools. They stated that a most frequently used personal information management tool is email. Teachers assign the documents to folders with the names of the projects or content existing in those folders. They do this for easy relocation of information as the complicated or too obvious naming of files and folders might be confusing, and as a result a document may be lost in the folders.

Karchmer, [10] pointed out that teachers are generally not convinced that online resources and tools save time. Recker, Dorward, and Nelson, [11] reported that that teachers do seek information from online sources to incorporate knowledge in learning. Therefore, any assistance in improving their skills to find and re-find information and steps to overcome the information overload will help enhance the information support for learning and teaching activities.

### 3. Findings

#### 3.1. Information Sources Consulted by Teachers

Teachers stated that they often search for information on examinations and assignments, specialized subjects, curriculum, teaching techniques, lesson plans, and teaching activities. The types of information reported by teachers are considered the essence of teaching profession. Teachers expressed interest in these types of information to keep them abreast with the latest development in their fields. Information sources most frequently consulted by teachers are listed in Table 1.

Table 1. Sources of Information N=27

Information Source	%
Social Media Tools (Snapchat, Instagram, Twitter, etc.)	26%
Google and other websites	22%
Educational Applications (Telegram, Pinterest, Teacher Kit, Make It For Teacher)	22%
Reference sources (Encyclopedia, Dictionaries, etc.)	15%
Experienced Teachers (Colleagues)	7%
Meetings, Workshops, Training Courses	7%

As shown in Table 1, most prevalent sources are social media tools (Snapchat, Instagram, and Twitter). Google and educational applications are also preferred by teachers. Most frequently used applications include Telegram, Pinterest, Teacher Kit, Make It for Teacher.

#### 3.2. Information Kept for Future

Part of the information that teachers collect or is sent to them by different channels is kept for future use. Most information found is used to perform the tasks at hand. Teachers reported that about 25% of the information is saved for future use with the presumption that this information will be needed most of the time. Major types of information kept is listed in Table 2.

Table 2. Types of Information Kept for Future N=27

Information Type	%
Worksheets, Exams, Assignments	20%
Specialized Subjects	19%
Curriculum Forms	19%
Lesson Plans	15%
Teaching Techniques	15%
PowerPoint Presentations	11%

As shown in Table 2, worksheets, exams, and assignments were the most widely stored information for future reference and use. Lesson plans and teaching techniques were also considered important to be kept for possible use in future. The importance of information on specialized subjects appears to be relatively short-lived. Routine information such as lesson plans and teaching techniques rank averagely.

Teachers also listed the methods and strategies used for keeping information for future. Methods used for keeping information for future use are listed in Table 3.

Table 3. Methods of Keeping Information N=27

Method	%
Flash Drives, CD, Hard Disc	30%
I-pad, Laptop, Smart Phone	22%
Email, Dropbox, Bookmarks	22%
Excel, Word, PowerPoint	15%
Files, Cards, Folders	11%

As shown in Table 3, preferred methods for keeping information were electronic storage means. Teachers explained that these have large capacity and are easy to handle which make them more practical to use on daily basis. Email, Dropbox and cloud services were also popular among the schoolteachers to keep important information. Chaudhry, Rehman and Al-Sughair, [12] reported that cloud storage such as Dropbox and Onedrive were also popular among corporate employees in Kuwait,

### 3.3. Information Organization

It is also important that information that is stored and kept for future use is properly organized to make its re-finding easier. Al-Rukbani and Chaudhry, [13] reported that information professionals in Kuwait consider the use of folders to organize e-documents helpful and indicated that they could easily retrieve information if folders were organized properly. Information organization techniques used by teachers in Kuwaiti schools are listed in Table 4.

Table 4. Information Organization Techniques  
N=27

Information Organization	Percentage
Tagging	41%
Categorization	26%
Structured folders	22%
Filing by topics and subjects	11%

As shown in Table 4, schoolteachers appear to be aware of the importance of labelling of information before these are filed in relevant folders. Teachers reported that they were using tags related to their teaching assignments and lesson plans.

### 3.4. Information Management Behavior

To avoid the possible information overload, files need to be cleaned on regular basis by reviewing and weeding obsolete information. Information that become obsolete should be deleted from the files and files should be cleaned and updated regularly. Richard and Sasse, [14] stated that professionals are mostly frequent filers and they file or delete most unwanted document everyday, while there are extensive filers who try to deploy a combination frequent filer, spring cleaner, and no-filer. Information management displayed by teachers in Kuwaiti schools is presented in Table 5.

Teachers rarely clean up the desktop. They prefer to either create folders using schedules. The variation in responses when asked on information management goes with the idea that teachers are probably not as

good managers of information as supposed to be. That indeed when it comes to information management, not all teachers do this correctly.

Table 5. Information Management Behavior  
N=27

Behavior	Percentage
Pilers	41%
Filers	26%
Spring cleaners	22%
Regular cleaners	11%

Teachers rarely clean up the desktop. They prefer to either create folders using schedules. The variation in responses when asked on information management goes with the idea that teachers are probably not as good managers of information as supposed to be. That indeed when it comes to information management, not all teachers do this correctly

### 3.5. Information Re-Finding Strategies

Most teachers reported that they tried to re-find information by referring to school learning stage. Teachers find it more practical because each learning stage has special work. Other means were searching by keywords or dates. While searching by classification category (teachers or students) and alphabetical order got the least choice. Table 6 the information finding strategies used by schoolteachers in Kuwait.

Table 6. Strategies of Re-Finding  
N=27

Strategy	%
School Learning Stage	33%
Keywords	26%
Date	26%
Categories	11%
Alphabetical Order	4%

It is stated that finding information for the first time is difficult but interviews with teachers indicated that finding things already found could also be a challenge. Kearns, Frey, Tomer & Alman, [15] reported that their study of personal information management strategies used by online faculty displayed a variety of strategies to make their information re-finding more successful. There is a need to create awareness among teachers that adopting regular personal information management behavior is important in making their information finding more successful.

#### 4. Difficulties in Information Management

Teachers reported some difficulties that they experienced in their information finding and re-finding. The most common challenges faced by teachers are listed in Table 7.

Table 7. Difficulties in Finding Information  
N=27

Difficulty	%
Information Overload	19%
Fragmentation	15%
Determine Information's Value	7%
Time Pressure	7%
Duplicate Materials	7%
Inexperience	4%

The most common challenge faced by teachers in Kuwait was information overload. It seems that the increased amount of digital information is hard to manage. Teachers also expressed that they needed training in searching and managing information. This appears in line with the research reported in previous studies. Majid et al. [16] reported information fragmentation as a source of frustration and anxiety among graduate students.

#### 5. Lessons Learnt

Information management is considered important by teachers in Kuwaiti schools to support learning and teaching activities. A wide variety of information sources are consulted by teachers on regular basis. Teachers prefer to use digital information resources but seeking advice from colleagues is still considered a preferred method for finding information. Teachers use multiple systems and mechanisms to save and organize information kept for future use. Work-related categories are used to label and tag information and name folders to organize information. Intuitive tagging and appropriately structured folders help re-find information more quickly.

Teachers conceded that they experienced difficulties involving information overload and fragmentation of information that caused anxiety. Teachers expressed that they need training in use of electronic tools and learn better techniques for managing information.

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