

**The Knowledge Functionality in the Teachers' Online  
Social Networks (TOSN) in UAE**

حركة ووظائف المعرفة في شبكات المعلمين الاجتماعية على الإنترنت  
في دولة الإمارات العربية المتحدة

by

**ASHRAF SHAWKY AL-RASSOUL**

**Dissertation submitted in fulfilment  
of the requirements for the degree of  
MASTER OF EDUCATION**

at

**The British University in Dubai**

**March 2019**

## DECLARATION

I warrant that the content of this research is the direct result of my own work and that any use made in it of published or unpublished copyright material falls within the limits permitted by international copyright conventions.

I understand that a copy of my research will be deposited in the University Library for permanent retention.

I hereby agree that the material mentioned above for which I am author and copyright holder may be copied and distributed by The British University in Dubai for the purposes of research, private study or education and that The British University in Dubai may recover from purchasers the costs incurred in such copying and distribution, where appropriate.

I understand that The British University in Dubai may make a digital copy available in the institutional repository.

I understand that I may apply to the University to retain the right to withhold or to restrict access to my thesis for a period which shall not normally exceed four calendar years from the congregation at which the degree is conferred, the length of the period to be specified in the application, together with the precise reasons for making that application.

**Signature**

Ashraf Shawky Alrassoul

## **COPYRIGHT AND INFORMATION TO USERS**

The author whose copyright is declared on the title page of the work has granted to the British University in Dubai the right to lend his/her research work to users of its library and to make partial or single copies for educational and research use.

The author has also granted permission to the University to keep or make a digital copy for similar use and for the purpose of preservation of the work digitally.

Multiple copying of this work for scholarly purposes may be granted by either the author, the Registrar or the Dean only.

Copying for financial gain shall only be allowed with the author's express permission.

Any use of this work in whole or in part shall respect the moral rights of the author to be acknowledged and to reflect in good faith and without detriment the meaning of the content, and the original authorship.

## **Abstract**

The issue of teachers' professional development is a challenge for educational systems and educational experts as a result of the rapid changes that occur in societies and affect the educational process. These changes including the tremendous development of communication technology, have led both educational institutions and self-motivated teachers to digital platforms in search of professional development. Formal platforms have been established by educational institutions, and informal platforms have been established on the social networks of teachers. This study examines the professional knowledge in the teachers' online social networks (TOSN) in terms of editing and exchanging. This study also seeks the factors affecting this knowledge in order to analyze these networks and evaluate the role in the teachers' professional development and recording the advantages of these communities for investing in future projects for the establishment of such platforms. The study found through the questionnaire that teachers accept these TOSNs because they provide them with professional development and achieve this goal better than traditional programs for professional development. The study has also found that this knowledge is applicable, which positively affects the outcomes of the educational process. One of the factors influencing the promotion of this knowledge is the encouragement of members in these communities to participate, the presence of trust among all members of society, use case-based learning style, possessing digital communication skills.

Keywords: Teachers - Professional Development - Social Networks – Knowledge.

## ملخص البحث

تمثل قضية التطوير المهني للمعلمين تحديا كبيرا للأنظمة التعليمية وخبراء التعليم، وذلك نتيجة التغيرات السريعة التي تحدث في المجتمعات وتؤثر على العملية التعليمية. هذه التغييرات - بما في ذلك التطور الهائل في تكنولوجيا الاتصالات - دفعت المؤسسات التعليمية وكذلك المعلمين الذين لديهم دوافع ذاتية إلى المنصات الرقمية بحثاً عن التطوير المهني. زاد إنشاء المنصات الرسمية من قبل المؤسسات التعليمية، وأنشئت منصات غير رسمية على الشبكات الاجتماعية للمعلمين. تتناول هذه الدراسة المعرفة المهنية في شبكات التواصل الاجتماعي للمدرسين (TOSNs) من حيث التحرير والتبادل. وتبحث أيضاً عن العوامل التي تؤثر على هذه المعرفة بهدف تحليل هذه الشبكات وتقييم دورها في التطوير المهني للمعلمين، وتسجيل مزايا هذه المجتمعات لاستثمارها في المشاريع المستقبلية لمثل هذه المنصات. وجدت الدراسة من خلال الاستبيان أن المعلمين يقبلون TOSNs لأنها توفر لهم التطوير المهني وتحقق هذا الهدف بشكل أفضل من البرامج التقليدية للتطوير المهني. ووجدت الدراسة أيضاً أن هذه المعرفة قابلة للتطبيق، مما يؤثر إيجاباً على نتائج العملية التعليمية. وقد رصدت الدراسة أهم العوامل التي تؤثر على تعزيز هذه المعرفة ومنها تشجيع الأعضاء في هذه المجتمعات على المشاركة، ووجود الثقة بين جميع أفراد المجتمع، واستخدام أسلوب التعلم القائم على الحالة، وامتلاك مهارات الاتصال الرقمي.

الكلمات المفتاحية : المعلمون - التطوير المهني - الشبكات الاجتماعية - المعرفة.

## **DEDICATION**

I dedicate this work to my parents and to all my teachers who taught me the real meaning of education.

I dedicate this work to my two sons Hazem & Baraa and to my daughter Rodina, and to all my students who inspire and give me a lot. I dedicate this dissertation to all teachers who are suffering a lot to develop their performances.

## **ACKNOWLEDGEMENT**

I would like to thank my dissertation supervisor Dr. Naz Awan who adds a lot to my views in thinking and learning. I wish to express my gratitude and appreciation to her guidance and support.

# Table of Contents

## Chapter One – Introduction

1.1 Overview .....	1
1.2 Statement of the problem .....	2
1.3 Background of the research .....	3
1.4 The Research Questions .....	3
1.5 The Significance of the Research .....	4
1.6 The Organization of the Research .....	5

## Chapter Two – literature review

2.1 The role of teacher training .....	6
2.2 Teacher training and professional development .....	6
2.3 Communities of Practice for Teachers .....	7
2.4 The role of technology-based communities of practice for teachers .....	7
2.4.1 Theoretical frameworks for understanding online communities of practices .....	8
2.4.2 Teachers’ Online Social Networks (TOSN) .....	9
2.4.3 The social element of TOSN in the UAE .....	11

## Chapter Three – The present study

3.1 Methodology .....	16
3.2 Research Design .....	16
3.3 Ethical Issues .....	18
3.4 Gaining Access .....	18
3.5 Methods of Data Collection .....	19
3.6 The Sample .....	23
3.7 Feasibility .....	23
3.8 Reliability and Validity .....	23

**Chapter Four – Findings and Discussion**

4.1 Results and Analysis ..... 24

4.2 Discussion ..... 31

**Chapter Five – Conclusions and Recommendations**

5.1 Conclusion ..... 36

5.2 Reflections ..... 37

5.3 Limitations ..... 38

5.4 Recommendations ..... 39

References ..... 40

Appendix A: ..... 42

Appendix B: ..... 55

## **List of Illustrations**

<b>No.</b>	<b>Figure</b>	<b>Page</b>
1	The flipped taxonomy of the interaction categories in TOSN	4
2	The Social bakers Export Inspiration Search	22
3	Categorize the Interaction with Professional Knowledge on You tube platform	30
4	The Interactions Rank	31

## List of Tables

<b>No.</b>	<b>Table</b>	<b>P.</b>
1	Professional Development in the TOSN as communities of practice	39
2	The links and trust among teachers in TOSN	28
3	The case-method learning	29
4	The Communication Skills	29
5	Knowledge creation and sharing	29

## **Chapter One – Introduction**

### 1.1 Overview

Nowadays lots of changes occur in the field of education. Teachers, the ones who transfer the knowledge to their students are supposed to adapt to these changes. New teaching strategies are coming, and new programs are created. There is a strong requirement for teachers to engage in training programs as, depending on their professional development, education gains more and more challenges. This is the result of the 4<sup>th</sup> revolution (Çağiltay 2006). Thus, professional development is meant to improve the quality of education and it is an important part in helping teachers to stay current with the students' performance standards (Jones & Dexter 2014). According to Nilsen et al. (2016) teacher quality comprises indicators of teacher qualifications, mentioning educational background, teaching experiences, and participation in PD projects, and self-efficiency as well. Curcher (2014) finds out that in Finland, one of the first rank education provider, teachers' training and development is considered the foundation stone in the education system.

The changes in the community demanded teachers to improve their skills and performance. The solution was to share knowledge among teachers as a result of new information and communication technologies. That agrees with what Siemens (2005) mentions about learning that happens in various ways within communities of practice. So, learning is a non-stop process and it is in a combination with work-related tasks. Saifuddin & Strange 2016 consider that online platforms are designed and developed for teachers to provide with genuine stuff and experiences which eliminate partitions and have no restrictions. Web-based COP offers teachers something different and suitable for trainees (Riel & Fulton, 2001:523 cited in Saifuddin & Strange 2016).

By reviewing studies on Online-based teachers' professional development results show a positive impact on this PD style. Regarding the positive impacts for the Online-based teachers' PD, Saifuddin & Strange 2016 conclude that online COPs enhance the educator's professionalism, raise experience, and make their knowledge up to date and boost their role as a tech facilitator. Moreover, Curcher 2014 found that genuine e-learning in combination with progressive queries, and social technologies usage reveal that they match the teachers' education and PD (Teräs & Myllyla 2011 cited in Curcher 2014).

It is important to distinguish between two patterns in the online-based teachers' professional development: the formal platform which is created by formal institutions and the informal platforms which teachers themselves create and join for individual reasons and goals. Regarding

formal platforms, Çağıltay 2006 states that the idea of using ICT is meant to establish teachers' CoPs which gained relevance in educational technology because of increasing digital communities.

## 1.2 Statement of the problem

Previous studies have identified the relationship between the teachers' professional development, knowledge management and the online communities of practice (Çağıltay 2006). Healy& Block and Judge 2014 state that thanks to web-based education the learners and teachers are offered benefits such as flexibility, time and financial savings. And this has the identical results like in conservative face-to-face training (Navarro & Shoemaker, 1999; Lin & Davidson, 1995; Sujo de Montes & Gonzales, 2000; Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009 cited in Healy& Block and Judge 2014).

While reviewing the previous studies, four aspects appear as main factors in online-based teachers' professional development: 1- knowledge creation and exchange, 2 - Communities of practice - Lave& Wenger theory, 3 - Quantum theory of trust - Karen Stephenson, and 4- the Case-Method Learning.

1 - Landauer and Dumais (1997 cited in Siemens 2005) refer to the phenomenon that people possess more knowledge that is present in the information they have been given. The term connectivism is related to the possibility that domains of knowledge may contain numbers of interrelations that can make learning possible via the mechanism of speculation. John Seely Brown explains that the internet holds the small efforts of many people with the large efforts of a few ones.

2 - Drummer et al. 2018, say that virtual learning communities are examples of online forms of groups in education, in which the learners find themselves in a CoPs ("CoP", cf. Lave and Wenger 1991; Köhler and Kahnwald 2013 cited in Drummer et al. 2018). Regarding teachers' professional development this is a suitable pattern of PD which links with the real work. Çağıltay 2006, explains that within the CoPs teachers have opportunities to create useful documentation and procedures that can be shared especially with new teachers.

3 - Kleiner 2003, states that trust value is one that differentiates the high trust society and the legalistic one in which the first has a competitive advantage in the fact that suspicion is a cultural value and in this case the cost of the transaction goes down for both kinds of societies.

4 - L. Shulman (1986, 1992 cited in Levin 1995) has a point of view about how and why the case-based approach benefits teachers' education. According to him, cases may be used in learning principles of a theoretical nature, models of practice, morals, etc.

### 1.3 Background of the Research

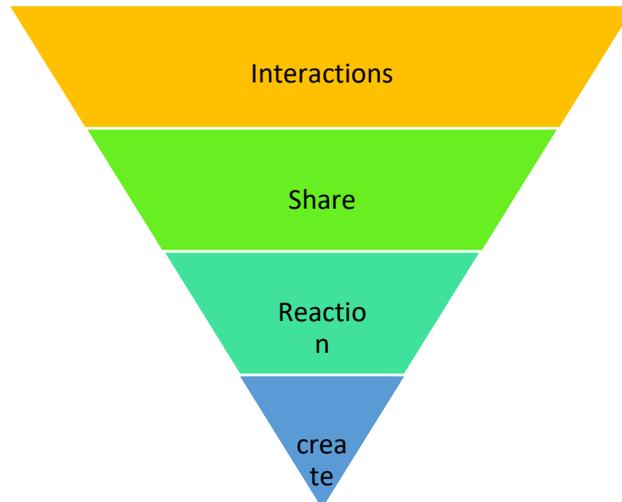
Technologies have impacts on defining and model people's thinking. Mahapatra (2015) discovers the same outcomes about the report of the European Commission in the examination of the Web 2.0 impacts on educational programs. In UAE digital communication records an advanced rank in the digital 2019 report; internet users, as a percentage of total population is 99%. The total number of active social media users is 9.52 million out of 9.61 million 99%. Mahapatra (2015) makes a link between the rank of the country in using the Internet and the chance of activating this style of teachers' professional development and programs. India is the third largest user of the Internet, it means that this option is available there. Coming back to UAE, the Internet has gained the way educators stay connected on professional social media in order to achieve higher PD.

### 1.4 The Research Questions

This study examines the knowledge movement in the Teachers' Online Social Networks in UAE through one hypothesis and three questions.

#### **The Research Hypothesis:**

Knowledge in the teachers' online social networks (Facebook, Linked In, Twitter, etc.) shapes a flipped taxonomy. In the bottom there is the smallest group of the creators who produce the knowledge through updating news, innovations reports, their experiences. The second group consists of participants who extend this knowledge with a critical sense or with a comment. The third group is formed of the participants who share and repost that knowledge. The last group is represented by the interactive participants who give "Like" or leave invaluable emoji faces (agreement, amazement, thanks for sharing). Out of this taxonomy there is the silent participants who do not show any interaction regarding the new knowledge, they could keep this knowledge in their notebooks, they could try to apply in their classroom but without any action in the social networks.



(Figure. 1: the flipped taxonomy of the interaction categories in TOSN)

**The Research Questions:**

Based on three theoretical frameworks for the knowledge in the social networks (Communities of practice Iave & Wenger/ Quantum theory of trust Karen Stephenson/ The case method learning) the questions come:

- 1 – What are the conditions for the active participation of knowledge in the teachers’ online social networks (TOSN)?
- 2 – To what extent the knowledge teachers gain on their online social networks is applicable?
- 3 – Do online social networks help teachers achieve their professional development?

1.5 The Significance of the Research

It is stated that teachers’ quality means indicators of teacher qualifications, a certain period of experience and PD, plus teachers’ self-efficacy. The students and their results are affected by the teachers' features (Wayne and Youngs 2003 cited in Nilsen et al. 2016). Quality of teachers’ education is related to teachers’ knowledge and skills in the capacity of instructing students and students’ achievements. In the UAE context there is an approach to gathering these benefits of teachers’ online social networks with the formal smart learning platform which has been launched within Mohamed bin Rashid Smart Learning Initiative. On this formal platform teachers can join or create groups for professional or social purposes. Building on that, Teachers’ Online Social Networks (TOSN) have to examine and define the motivator aspects in it. Also, the weakness

point in (TOSN) should be defined to be avoided in the formal platforms. Mahapatra 2015 says that online-based teachers' professional development platform has some points to be considered. This online CoPs has to deal with teachers' motivation to take part in it. It is advisable to be gradually, to start with small groups and give teachers information about Web 2.0 capabilities. Lai et al. 2006, mentions that CoPs have the necessary infrastructure in their activities. Wenger et al. (2002 cited in Lai et al. 2006) explain that there are no obstacles to CoPs regarding time and size because of Technologies use in these online-based CoPs.

#### 1.6 The Organization of the Research

This study comprises five chapters. The first is an introduction, including the background and significance of the study related to the knowledge creation and exchange in teachers' online social networks (TOSN) and its impact on their professional development. It also includes the purpose of the study and the research hypothesis and questions. The second chapter is regarded as literature review of the study which focuses on a review of some relevant literature regarding the online communities of practice and how it affects the teachers' professional development. The third chapter is about the methodology of the study including the research design, the participants and the collected data. Then, chapter four consists of the findings that have been built upon the discussion of the research. Chapter five resumes to the limitations of the study, conclusions, reflections and future research recommendations.

## **Chapter Two – Literature Review**

### 2.1 The role of teacher training

Siemens 2005 argues that knowledge now is growing faster which means that it can be measured in a month and even years. Gonzalez's (2004, cited in Siemens 2005) states that the information shrinks half-life. In these conditions every new knowledge speedily becomes outdated. In learning trends, teachers might get into unrelated fields during their lifetime and informal learning becomes an important aspect of learning experience. To counter this downturn in the age of knowledge, organizations are resorting to the development of new methods of education and training. People will move between a variety of fields and professions, so informal learning and training are an important solution to overcoming this challenge. Nilsen et al. 2016, considers enrollment in vocational training programs to be one of the most important indicators of teacher competencies, as well as teacher qualifications, teaching experience and personal characteristics such as self-efficacy. And he refers to previous studies that make a relationship between the characteristics of the teacher and the results of the students (Wayne and Youngs 2003 cited in Nilsen et al. 2016). All this leads to educational quality. Accordingly, to provide opportunities for professional development of teachers and lifelong learning opportunities, reliance has been placed on the development of practice communities. The fourth industrial revolution raises changes that need more professional development programs for teachers (Çağiltay 2006).

### 2.2 Teacher training and professional development

The need for professional development programs for teachers is a common theme and a cause shared by many educational systems around the world. Jones and Dexter (2014) suggest that teachers need opportunities to learn teaching methods that differ from their traditional ones and master technology-based education with students who are indigenous to technology. In Europe, according to the report "Teaching in the Digital Age 2014", 70% of EU teachers recognize the need for training and professional development to modernize and support their teaching methods and training in technology-based teaching methods. In India, Mahapatra (2015) indicates that teacher training and professional development is a problematic point in the Indian educational system (Mahapatra 2011; Padwad 2011 mentioned in Mahapatra 2015). On the same line, Curcher 2014 goes on to decide the need for professional development in teaching methods as well as in assessments and training in the use of technology in the educational process. Çağiltay 2006 puts all this emphasis on training programs and professional development of teachers as a result of the dramatic changes in educational systems recently as the effects of the 4<sup>th</sup> revolution. These rapid changes require the need for new teacher training.

### 2.3 Communities of Practice for Teachers

Wenger (1998) says that the idea behind CoP is old. The new fact is the importance of knowledge in formal and informal approaches. Most important in the development of practice societies is collective thinking. “Etienne Wenger (2002) describes the Communities of Practice as Groups of people who share a concern, a set of problems, or a passion, about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis. Barab, Makinster, and Scheckler (2004) define CoP as a persistent, sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history, and experience focused on a common practice and/or mutual enterprise (p.55)” (Çağiltay 2006 p. 4).

Communities of practice have three dimensions: spin, mechanism of action, and what they can produce. (Serrat 2017). The idea of practice societies provides a conceptual framework for understanding learning as a change in practice, resulting from social participation. It argues that the members of this program share a common mission and after a while they can develop this work. Karlsson 2004 argues that practice societies are a form of informal learning.

Karlsson 2004 points out that communities of practice are linked to the theory of Vygotsky, in which it is argued that the learner is accessible to any person who can enhance his development and learning approach. In addition, there are several names of practice communities, but they all share three elements: practice, field and society (<http://education.qld.gov.au/>). Silva and Olson 2012 state that communities of practice converge with communities of teacher learning in content and the way content is taught (Wenger, 1998; Wenger & Lave, 2001; Wenger, McDermott, & Snyder, 2002). The aim of these communities is to facilitate and develop student learning.

Building on above, communities of practice can replace formative pedagogical training because it can: identify, create, store, share, and use knowledge, decrease the learning curve of new teachers, enhance professional development, illuminate good practice, spawn new professional ideas, enable accelerated learning, and connect learning to action (Çağiltay 2006).

### 2.4 The role of technology-based communities of practice for teachers

(Çağiltay 2006) The rapid development of ICT has led to the idea of using it to form communities of practice for the professional development of teachers, many of which have been surfed online. Mavrotheris (2012) points out that this is due to lack of training opportunities or to overcoming time and geographic barriers. Mahapatra (2015) argues that teachers who look for professional development and do not have the formal training opportunity can join professional teacher

development programs online. Cagiltay et al. (2001, cited in Çağiltay 2006) suggests using virtual community platforms where teachers share their experiences, strategies, and teaching practices with others to provide learning opportunities. Coffman (2004) agrees that virtual communities on the Internet have a role in the professional development of teachers. Online communities of practice offer opportunities for professional discussion, sharing of professional materials, plans and teaching methods, educational issues, new developments and emotional partnerships (Saifuddin & Strange 2016). The role of Internet-based communities of practice (CoPs) is not limited to theoretical or literary domains, but rather to the most demanding and difficult professions. An article that has been found, points to the importance of CoPs for surgeons on social networking platforms. This article outlines the role of these communities in communicating between surgeons, sharing medical knowledge, enhancing surgeons' interaction and practices, improving patient outcomes (Surgeons use social media to share and learn new skills 2017).

#### 2.4.1 Theoretical frameworks for understanding online communities of practices

The information and communication revolution has resulted in economies based on data and knowledge flows, as well as the growth of social networks that reflect the organization of human activity. Social networking is a forum for individuals or groups that are connected by shared visions, ideas, and many other forms of human relationships. These networks go beyond bureaucracies, inertia and control. However, we are still far from being able to analyze this organizational power so that we can invest this potential. (Serrat 2017).

Siemens (2005) provides a theoretical framework for learning within CoPs: “Connectivism is an integration of the principles explored by chaos, networks, theories of complexity and self-regulation” (Siemens 2005 p. 5). Learning in this theory takes place in environments that are not completely under the control of the individual but can occur outside ourselves, deliver specialized information, and those links help us to increase knowledge which are more important than our current knowledge base. Connectivism believes that decisions are based on rapidly changing foundations because the new knowledge is constantly being acquired. There is a need for the ability to sort and extract important information. Knowledge in the community of practice must be about the right members and in the right context. Siemens (2005) mentions that cognitive, behavioral, and constructional theories do not face the challenges of organized knowledge and their transitions. The flow of information within the organization is an important element of organizational effectiveness. In a knowledge economy, the health of the learning environment depends on the care of the information flow system.

#### 2.4.2 Teachers' Online Social Networks (TOSN)

Web 2.0 tools provide unlimited opportunities for learning, to change the teaching process and the nature of learning experiences. Web 2.0 characteristics support the creation and sharing of knowledge among teachers. Anderson, (2007 cited in Konstantinidis & Theodosiadou 2013), indicates that Web 2.0 tools have changed the way people interact and have provided a wealth of learning opportunities. Web 2.0, which is based on social intelligence, has changed the role of the World Wide Web, where it is no longer the provision of information, but rather the creation and linkage of people's interests and activities. "Typical features of Web 2.0 tools are the participatory characteristics, mutual contribution, content and resource sharing, users' active role and interaction resulting in the development of online social communities. In that way, it seems that we are destined to be residents, and not visitors, with technologies" (White, 2009 cited in Konstantinidis & Theodosiadou 2013 p. 2).

Internet-based education and training help to compensate for deficiencies in professional development programs for teachers (Healy & Block and Judge 2014).

Regarding the official professional development and training on the Internet, Mahapatra (2015), refers to some successful models launched by organizations such as the British Council and RELO and achieved useful training programs in teacher training in India. Research has shown that the online-based education and training provide the learner and the organization with benefits such as flexibility, time and money saving, the space of the training rooms, and has repeatedly demonstrated the same results as face-to-face learning (Healy & Block and Judge 2014).

Learning and vocational training in the context of social networks have interlocking terms. Some studies refer to it as a personal learning environment (PLE) where learners can manage their education and contacts with peers and other professional social networks, overcoming time and space barriers. (McGloughlin & Lee, 2010; Selwyn, 2007; Valjataga, Pata, & Tammets, 2011; van Harmelen, 2006 cited in Dabbagh& Kitsantas 2012). The other some studies call it as Learning on Demand and describes it as a modern lifestyle (McLoughlin & Lee, 2007 cited in Dabbagh& Kitsantas 2012). But the agreement between all studies focuses on the fact that this learning is self-motivated, independent and informal (McGloughlin & Lee, 2010; Smith, Salaway, & Caruso, 2009; Suleiman and Shroom, 2007 cited in Dabbagh& Kitsantas 2012).

Web-based platforms designed and developed for school teachers, facilitate access to educational experiences, access to tools and strategies, and overcome boundaries, not for doing the traditional thing, but to do something sophisticated and powerful that suits the 21<sup>st</sup> century learners (Saifuddin & Strange 2016). Two elements are necessary for professional development and

learning outcomes in online communities: an appropriate facilitator and a good communication structure. Moreover, designers should ensure that the system used in the platform is not a barrier to participants. The studies have also found that developers need to know the culture of teachers, test the simplicity or complexity of the platform, know the purpose of the platform, and allow the sharing of emotional experience (Saifuddin & Strange 2016).

Lai et al. (2006) argue that online practice communities have designs and facilities to support members' work (Barab, MaKinster & Scheckler, 2004). Thus, it can come over the challenges of time, size, affiliation and culture (Wenger et al., 2002 cited in Lai et al. 2006), for example, members can communicate during working time.

Carlson (2004) talks about the Swedish national program. He notes that about 50% that is, more than 70,000 teachers participate in the program during the three years 1999-2002. He adds that the program design does not allow individual participation of the teacher but through a team.

Despite the many advantages indicated by studies in the field of the official online-based education and professional development programs for teachers, these studies have identified several challenges facing this type of learning and limit these features. At the forefront of these challenges there are: time, negative criticism and increased information.

Kear (2011 cited in Curcher 2014) states that the participants in the online collaborative activities on problems such as disengagement, large amounts of information, and low participation. In a case study on an online teacher training program, teachers expressed the view that the time factor was a major obstacle to their participation in activities (Ming et al 2010 cited in Jones & Dexter2014). The training aspect has been added also, teachers in need to have training for appropriate use of learning tools on these platforms. Teachers must have advanced knowledge of technology to make use of various platforms (Flanigan 2011, cited in Jones & Dexter2014).

Saifuddin and Strange (2016) suggest that fear of criticism may be an emotional barrier discouraging the teacher from participating, as well as facilitators who control dialogue instead of managing it. So, TOSN can be defined as Informal networks for e-practice communities that take different names such as virtual communities or communication platforms. Also, it is different from formal working groups in points as control, composition, participation and the expectations of sharing (Serrat 2017).

### 2.4.3 The social element of TOSN in the UAE

As a teacher in the UAE education system witness, one can easily touch the spread and the value of social media and its role in providing lots of online communities of practice for teachers. Mahapatra (2015) links the expansion of the state to the use of the Internet and the provision of professional development to teachers and their online programs. He argues that India is the third largest Internet user, meaning that this type of professional development is available there. While scanning the report of “Digital 2019 United Arab Emirates by Simon Kemp 2019” some numbers should be considered. 9.61 million is the population number in UAE. During the last twelve months, the internet user number is 9.52 million, the active social media user number is 9.52 million = 99% of the total population. The mobile social media user number is 8.80 million, it means that 92% of the population in the UAE is freely moving while connecting with the internet. The average of mobile internet connection speed in UAE is 50.2 while the worldwide average is 21.3. The average daily time spent using the internet via any device is 7 hours 54 minutes. The average daily time spent using social media via any device is 2 hours 53 minutes (Kemp 2019).

So, 99% of the population in UAE spend around 3 hours daily as a social media active user. The educational system in the UAE shows more interest in social media as communities of learning and practice, and as new skills which students have to gain as digital citizens. All these efforts in the same line with the UAE 2021 vision which is looking for a knowledge-based economy. in the Mohamed Ben Rashid Initiative for Smart Learning, The Ministry of Education launched a professional platform for teachers, students, parents, and administrators. On this official platform, members can create social groups, they can freely join any group. In these groups, teachers can create, share, discuss the educational knowledge, issues, documentation. By that, The Ministry invests the characteristics of the informal social networks in its formal platform. Regarding students’ preparation to be digital citizens, the Ministry launched the Digital communication curriculum for grades 10, 11 and 12. This curriculum is based on a digital platform named “Cyber 3”.

Back to teachers PD. the changes prompted teachers in different educational systems to modernize and develop their skills and teaching performance. They sought to share knowledge through new information and communication technologies. What makes social networks successful in playing this role? Studies show considerable theoretical factors to achieve this success.

Mahapatra (2015), refers to the characteristics of the Web 2.0 which encourage the users to create knowledge and share it. Moreover, Grant and Mims (2009 cited in Mahapatra 2015), state that

Web 2.0-based learning has its theoretical background such as cognitivism and constructivism. Saifuddin & Strange 2016, consider that “Seven motivators to share knowledge were found: collectivism, positive feedback, personal gain, altruism, technology, a respectful environment and interest from other teachers” (Hew & Hara, 2007:583–586 cited in Saifuddin & Strange 2016 P.8).

Knowledge Creation and sharing:

Communities of practice gained their importance from providing knowledge and allowing teachers to share this knowledge, in order to apply it and develop teaching performance. So, what kind of knowledge exists on the online-based CoPs of teachers? What knowledge do teachers share in it? The studies discussed different approaches on how to increase participation in online-based CoPs. Teachers share the knowledge they develop professionally, teaching resources, plans, teaching ideas, feelings and common professional interests. (Hur & Brush, 2009; Vavasseur & Kim MacGregor, 2008 cited in Saifuddin & Strange 2016).

Saifuddin & Strange 2016 scanned previous studies in this field and found some valuable results. Hew and Hara (2007) state that educators share knowledge of books, their practical and cultural knowledge. "McClure, Wasco, and Farad (2000) examined three CoPs to see why people participate and share knowledge online. They applied three perspectives of knowledge: knowledge as an object {justified true belief}, knowledge as embedded in people {that which is known} and knowledge embedded in the community {the social practice of knowing}. The value of content was categorized into tangible returns {useful, valuable information, answer to a specific question and personal gain}, intangible returns {enjoyment/entertaining, learning, interaction with a community, multiple viewpoints, peer group, altruism/pro-social behavior, reciprocity or give something back to community in return, advance the community} and barriers to participation {group related barriers caused by undesired responses and obstacles to participate}" (Saifuddin & Strange 2016 p. 3). Jons, Heffernan and Meusburger (2017) suggest that there are other sets of knowledge type, such as scientific knowledge or specialized professional knowledge, which will be understood, applied, accepted or replicated in a small range among experts (Cohen & Levinthal, 1990 cited in Jons, Heffernan & Meusburger 2017). Saifuddin and Strange (2016) argues that the common knowledge among teachers is "personal opinions, suggestions, knowledge of books and institutional practice." Practical knowledge is classified into one of three main categories: (a) personal opinion, (b) personal suggestion and (c) institutional practice" (Saifuddin & Strange 2016 p. 6). Thus, there is attendance to move learning theories into digital age. In this case there will be no personally experience and no learning acquisition to act. Competence is derived from forming connection. According to Karen

Stephenson, experience becomes the surrogate for knowledge since one cannot experience everything. Knowledge can be collected through people collection (Siemens 2005).

Case-based Learning Method:

Serrat (2017) argues that one of the most important elements in online teacher practice communities is the storytelling to recount cases and share previous experiences among teachers. He adds that they are common in societies and allow expression of emotional and realistic aspects, which provide implicit knowledge. According to Saifuddin and Strange (2016) attention has been paid to the development of case-based learning studies that capture the implicit knowledge of teachers and maybe a knowledge base for teacher education. Some see it as an educational tool for teacher education and professional development. These situations are full of details, information and it is a narrative about teaching and learning. Also, it allows for multiple levels of analysis and interpretation. "The state of affair is the practice of using situations as an educational tool in areas such as law, business, medicine, and education" (Levin 1995 p. 1).

" Case-based teaching is a teaching method that focuses on the use of situations either as part of the curriculum or its focus" (Levin 1995 p.1). L. Shulman (1986, 1992 cited in Levin 1995) refers to the reasons why case-based learning is an effective approach to teacher training and states that it can be used to illustrate theoretical principles or concepts, past practices, professional ethics, strategies, planning and role-sharing. Shulman also suggests that cases can provide motivation for learning but have not been empirically tested yet. This approach is a theoretical one, since the Piaget and Vygotsky theories provide the rationale for the discussion of situations as an important factor in the study of teachers' thinking (Levin 1995). "Piaget (1932) claimed that peer interaction fosters professional development, because it constitutes serious intellectual conflicts that may drive change. The interactions lead to individual thinking in the ideas of the discussion among children. Similar conflicts can occur for adults, including pre-service and in-service teachers, when they learn new things individually or in groups" (Hutcheson & Ammon, 1987; Levine, 1992; Schneider & Ammon, 1992 cited in Levin 1995 p. 2). Case discussion is therefore a valuable tool for teacher development because of the provision of cognitive conflict that leads to change (Levin 1995).

Barrows (1980 cited in Barber, King & Buchanan 2015) found that student teachers were unable to apply their knowledge in a new position. Bereiter and Scardamalia (1980 cited in Barber, King & Buchanan 2015) recognize that unique attitudes develop experience, it is about how experts become experts. The difference between beginners in any task and experts is that experts will

expand their knowledge and solve problems in new situations and combine what they and their colleagues collectively known in new ways (Barber, King & Buchanan 2015).

#### The Role of Trust:

Trust among members of online practice communities is one of the most important pillars of these communities. Saifuddin and Strange (2016) state that evolution of practice societies is based on several activities, such as discussion of changes, overcoming common challenges, requests for assistance, data, and increasing confidence (Wenger-Trayner & Wenger-Trayner, 2015 cited in Saifuddin & Strange 2016). Moreover, as a relevant point of the trust value in the teachers' CoPs, some suggest that many teachers may want to share borrowed identities so that they can share sensitive issues that are difficult to discuss with coworkers (Hew & Hara, 2007, cited in Saifuddin & Strange 2016). This happens because concealment enables them to think objectively in difficult situations (Hur & Brush, 2009, cited in Saifuddin & Strange 2016). Based on the above, it is obvious that the relationship between members in online practice communities is the most important factor in the formation, effectiveness, and success of these communities. Serrat (2017) points out that social network analysis is an understanding of networks and their participants. It focuses on two key elements: active members and their relationships in a specific social context. Also, he argues that social network analysis is important through identifying the relationships between members in understanding what facilitate or hinder knowledge flows among participants. This analysis is identical to "regulatory x-ray". Kleiner (2003) cites Karen Stevenson's theory, which examines the relationship between trust and learning, and argues that this relationship is a powerful regulatory tool. Talking back to a trusted colleague about an issue will restore mutual memory and create new learning opportunities. Stevenson thus identified the relationship of trust in CoPs and the ability of participants to develop and disseminate knowledge. Kleiner (2003) states that Karen Stevenson identifies six types of knowledge networks, all informal networks of people who interact and talk: 1. Network work, who does participant exchange information with daily? - 2. The social network, revolves around who does participant "check" with to see what is going on? - 3. Network innovation can be identified through who does participant collaborate with or experiment with innovative ideas? - 4. Network expert knowledge, which determines who is going to get experience or advice to? - 5. Career guidance or network strategy, is posed by answering the question of who does participant go for advice on the future? - 6. Network learning, is defined by the question of who does participant work with to improve current methods?

### Social Networks Skills - “Self-Organizing”:

Learning as a self-organizing process demands that the system is open informationally which means that it is able to classify its interaction with environment, it is able to change structure. According to Wiley and Edwards (n.d cited in Siemens 2005), self-organization is similar to social insects, that is thousands of people pass each other and change behavior properly. On a personal level, self-organization is a micro process of larger self-organizing knowledge created in institutional environment. Based on that it is required to learn connection formation between sources of information and create information patterns (Siemens 2005). Konstantinidis and Theodosiadou (2013) points out that the web is changing the way people interact with Anderson (2007 cited in Konstantinidis & Theodosiadou 2013), as well as introducing significant changes in the teaching process and the learning process and gaining the students' skills of participation, organization and independence in their education.

### **Investment of social aspect of (TOSN) in the professional networks of teachers online (TOPN) (United Arab Emirates model)**

During the review of the literature, challenges to the success of social networks in achieving professional development of teachers emerged. The most prominent of these challenges is the lack of support and organization. But in the context of the United Arab Emirates, there is a model that mixes the communities of formal practice with their informal counterparts. Vavasseur and Macgregor (2008 cited in Jones & Dexter 2014) mention a study in which principals participated with their teachers at the Informal Conference of the Parties, which discussed the formal educational activity. In the results of this study, teachers reported that the participation of managers was essential to the success of the program, and the researchers noted that the use of the teacher and the main voice was a key aspect of the success of the program as a whole. In the UAE, under the Mohammed bin Rashid Intelligent Education Initiative, which aims to transform the UAE education system into a technology-based education system, the Ministry of Education has established an online professional platform for all elements of the educational process. It includes students, teachers, parents, and administrators. Moreover, it provides data and quarterly planning for curricula, news, assessments and much of what members need. The platform provided an opportunity for all participants to interact socially through chats and the creation of social groups and invite members to it. The aim of these communities is to share documents, quarterly plans, lesson plans, new ideas, thus, combining the characteristics and advantages of both types of formal and informal online communities of practice communities.

## **Chapter Three – The present study**

### 3.1 Methodology

The study adopts a mixture approach that combines the characteristics of quantitative and qualitative approaches to deepen understanding of the research problem (Creswell 2008). The mixed curriculum provides a deeper understanding of the study problem. This understanding may not be available in the use of a quantitative or qualitative approach alone (Johnson & Onwuegbuzie 2004). Bogdan and Biklen (1992 cited in Cohen et al. 2000:287) point out that a qualitative approach is best for interpreting human behavior. The qualitative approach was applied in this study through semi-structured interviews with academics, representatives of the UAE Ministry of Education, and educational experts who chose to exchange knowledge by publishing their books. The study was based on a quantitative approach to monitoring, collecting and analyzing quantitative data through a digital questionnaire designed by Google Forms and distributed to teachers through social media. This questionnaire brings together the views and ideas of teachers about digital social networks and their role in their professional development. The questionnaire was designed on the Likert scale. To create a closer look at the effect of knowledge sharing among teachers on virtual social networks, descriptive analysis was tested on the quantitative data provided by the study tools, which in turn helps to identify the variance of search results (Criswell 2008).

### 3.2 Research Design

Sekaran (2003) states that the determination of appropriate decisions in the design of the study is based on the definition of the problem, the objectives of the study and the accuracy. Cohen, L et al., (2000) mention that the design of the research is supposed to be appropriate for the purpose of the research, and the research methodology and design is dictated by the purpose and objectives of the research. Thus, research design is set up to decide on, among other issues, how to collect further data, analyze and interpret them, and finally, to provide an answer to the problem.

Sekaran (2003) has identified six elements of research design. They are listed below.

#### 1. Purpose of the study

The study aims to examine the movement of professional knowledge among teachers on informal social networks such as Facebook, Twitter, LinkedIn, YouTube, and others. These networks are learning communities where teachers acquire training and professional development. The study seeks to the analysis of inputs and outputs for the purpose of improvement and development. In

addition, the professional development programs for teachers on the Internet are witnessing a tremendous increase. The study aims to provide guidance to those who work on designing professional networks for teachers on the Internet, whether these networks are formal or informal. This study is designed to discuss and answer the questions and hypothesis of the study, which deals with the knowledge movement between teachers on their social networks in the United Arab Emirates, and whether this knowledge qualifies as a substitute for official programs of professional development.

## 2. Type of investigation

A mixed approach is used to combine the strengths of quantitative and qualitative approaches. It is used in social science research because it is complex (Creswell 2008).

## 3. The Extent of researcher interference

The researcher investigates the objectivity completely and excludes any personal influence on the participants in the study to achieve academic integrity. The study used the following research tools: A - The questionnaire, which designed digitally on Google Forms and distributed to teachers through social networking platforms, means that the participants filled out the questionnaire in the absence of the researcher. B. Personal interviews have been carried out by e-mail due to the presence of participants in different time zones and geographical areas. C - The observation was documented by the researcher and provided pictures of the data and figures in it.

## 4. Study setting

The study is carried out in the United Arab Emirates to study the professional knowledge gained by teachers on their informal social networks. Studies have pointed to the need for professional development of teachers because of the rapid changes in societies, while there are educational systems which suffer from a lack of professional development programs. The tremendous development of communications has led to the provision of various types of professional development programs on the Internet but the studies dealing with these programs and their effectiveness are few. Based on previous studies and his personal observations, the researcher assumed that the largest number of teachers were on informal social networks to gain professional development. This study is designed to analysis professional knowledge in order to evaluate, develop and utilize it in the design of formal networks for the professional development of teachers.

## 5. Unit of analysis

Three research tools investigate this study, one need to analyze it statistically is the questionnaire. Google Forms provides a reliable graphical analysis of the data adopted in this study. The other two tools are the interview and the observation. The researcher analyzed them through the discussion.

## 6. The time horizon

The study was designed to be implemented over six months from September 2018 to March 2019.

### 3.3 Ethical Issues

Ethical actions are the fundamentals of the study, and for this reason the study will be followed at all stages. A letter from the university was requested to facilitate the researcher's task. This letter is addressed to whom may be concerned.

Ethical actions come at the forefront of this study, that is why the study is committed to all stages. In the questionnaires, the study will respect for privacy (Cohen & Manion and Morrison, 2000). Registration of the participant's name is optional, and the questionnaire does not ask for the name of the school in which he or she is working, age or social status.

Participants in the interviews will be safe from stress, and study will ensure that their participation is voluntary. And they will not ask them for special information (Cohen & Manion and Morrison, 2000). Confidentiality covers all information contained in the study and is used for study only.

### 3.4 Gaining Access

The study was designed and conducted among teachers of various disciplines within the UAE. Among the factors contributing to this study is the researcher's affiliation with the teachers' group, the sample in question, where he works as a teacher in the Department of Education and Knowledge in Abu Dhabi. This facilitated the task of distributing the questionnaire to fellow teachers and providing a profile of the study and its objectives. The researcher also continued through his e-mail the authority responsible for the academic research in the Ministry of Education and presented the study plan and a requested interview with the specialists followed. In this regard, a letter was presented by the university to facilitate the researcher's mission. Through the work in the academic field and by attending various educational conferences, the voluntary participation in the study was presented to some academics with the presentation of the university

letter to them and the details of the study procedures that accepted the voluntary participation in the study.

### 3.5 Methods of Data Collection

“The strength of the analysis depends on good quality data that in turn stems from good design of the data collection instrument, i.e. the questionnaire, and of the collection procedures” (Burgess 2001, p. 3). The study adopted the mixed method and requested that quantitative and qualitative data be collected to obtain accurate answers to the study questions (Johnson & Christensen 2012). A set of data collection methods were used in this study, and a combination of methods and instruments: interviews, observations, and questionnaires. Based on the above, the study adopts the method of triangulation, which is used for a deep understanding of the research problem (Creswell 2008).

#### The Interview:

Boudah (2011) highlights that the interviews have the purpose of collecting data because interviews are considered as points of view. Interviews may assist in the promotion of data that boost participant responses. The feelings and intentions are expressed in the interviews (Bell 1999), as they can point their views without any restrictions to the questions or the beliefs of the researchers (Creswell 2008). The disadvantages of making interviews lie in subjectivity that might generate variations in the study (Bell 1999). Interviews, as a method of data collection, are time-consuming. Interview response analysis is overwhelming, and it can be sorted out through the researchers’ appropriate work.

“Semi-structured interviews were selected as the means of data collection because of two primary considerations. First, they are well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers. Second, the varied professional, educational and personal histories of the sample group precluded the use of a standardized interview schedule.” (Barribal & While 1994 p.3). Bell (1999) mentions that flexibility is another characteristic of semi-structured interviews. Regarding the semi-structured interviews, they have been used to question participants with different specialties. The aim is to allow participants to give better ideas to the study subject. Meantime, it is the researchers’ chance to discover areas that have not been previously considered (Boudah 2011).

The origin of the interviews is face-to-face, although this option is unattainable and can be implemented by telephone. These are two authentic ways of interviewing. But things may require a new way at times (Sandelands 1993, p.378 cited in Bampton & Cowton 2002). Unexpected

events or problems may occur during the data collection process (Kulka 1982 cited in Bampton & Cowton 2002). In this study, it was difficult to arrange the interview in person because of the presence of participants from different countries. A telephone interview was considered. However, there were many problems, including special arrangements for recording open-ended questions (Burke & Miller 2001 cited in Bampton & Cowton 2002). E-mail was therefore used as an interview tool (Burke & Miller 2001 cited in Bampton & Cowton 2002). An invitation to participate in the study was sent with a presentation on the subject and objectives of the study. After approval the questions were sent at once (Bampton & Cowton 2002). There have been one-on-one interviews with the purpose of letting the participants to openly express themselves. Distance interviews have been operated giving the opportunity to academics that live in certain parts of the world to take part in the present study and contribute to its success. Four persons have been interviewed in this study.

The first one is Dr. Atef Abu Humaid Al-Sharman, Associate Professor \ Technology of Teaching and E-Learning at Hashemite University, Jordan. Researcher and author of e-learning technology. He has authored five books in the field of education design for digital content, integrated learning and reverse learning, learning technology for people with special needs, and the integration of ICT into education and curriculum. I had a chance to meet Dr Al-Sharman while I was involved in a joint program about “Digital Learning Design Skills”. The program was online and accredited by The Princess Sumaya University for Technology (PSUT). I offered him the chance to participate in this study and I conducted the interview with him via e-mail (Appendix B).

The second interview is carried out with Dr. Heba EL-Deghaidy the Interim Dean Graduate School of Education, American University in Cairo. Moreover, Dr. EL-Deghaidy is the Professor of Curriculum and Science Education and she is an expert in the STEAM learning which means that she can focus on the reality and the upcoming impacts of TOSN on Science teaching and learning. Also, she participated in “Edrak”, the online platform for teachers’ training by lecturing teachers in the STEAM teaching (Appendix B).

The third one was with an educational expert, author of valuable books as well. Most of the educators who have remarkable experience and knowledge to share, invest the social network for effective marketing for content. Thus, the other educators who still publish their contents in the traditional books still have their reasons to choose this way. To hear their voice an interview has been carried out with: Shaikha Alramsi, the author of “Enjoyable Minutes for a Wonderful Classwork” book 2018. My question was why she did not share her experience online instead of

doing that in a book, knowing the fact that a book production requires a long difficult process (Appendix B).

The fourth interview happened with the Ministry of Education representative to identify their experience in using social network in the formal online platform for all aspects of the educational process. The platform is used by educators, administrators, parents and students (Appendix B).

Tuckman (1972, cited in Cohen & Manion and Morrison, 2000), finds that for the interview questions there are four formats. In order to yield in-depth information and rich data, the present study selects the categorizing questions, which are based on the questions of descriptive responses, and the questions of experience answers.

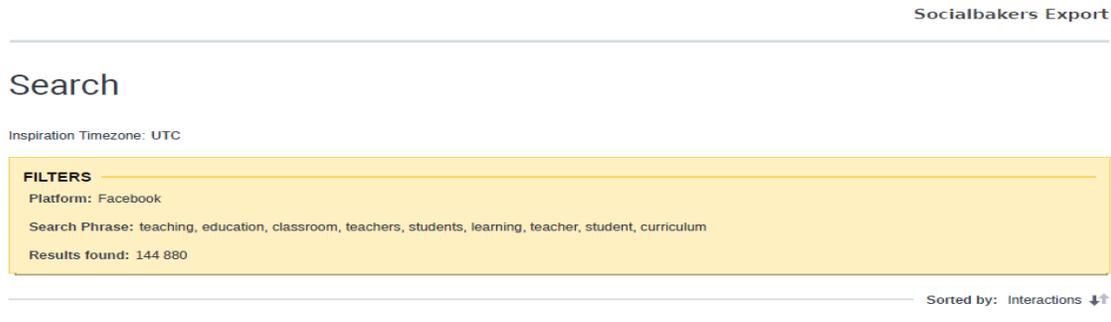
#### The Observation:

The study relied on observation to monitor some aspects of interaction on social networks between teachers (Creswell 2008). The observation provides an opportunity to increase the tools and to examine patterns of interaction among members in these platforms. Analysis of the data collected by the observation requires objective and unbiased analysis (Wragg 1999). Observation is one way of collecting data used by the study to monitor the behavior of knowledge dissemination and exchange among members. (Bell 1999, p. 156).

The role of observation in this study is limited to discussing the hypothesis of research, which argues that the editing, dissemination and exchange of knowledge among teachers in the teachers' online social networks TOSN Facebook, Linked In, twitter etc. constitutes a flipped taxonomy. The bottom of this category is the knowledge creators which has the lowest number. The second group consists of the members who share this knowledge with adding important comments. The third group is for the interactive participants who share and repost. comments. The last group is shaped by those who give "like" or other interaction signs. The observation in this research represents a reality because it depends on statistical results taken from social media analysis programs and websites. In order to test the validity and discussion of this hypothesis, the YouTube platform was observed and monitored by the researcher. Moreover, the social network analysis tool was used to analysis the Facebook platform in order to find out results showing the validity of this hypothesis.

Social bakers Export Inspiration Search is a website which provide a service to analyze the social network through defining the platform, the time period and the keywords of the search. The study

selects the Facebook platform. This selection came as a result of the teachers' survey in this study which shows that Facebook is the first preferred platform for them. The time duration was selected from 1<sup>st</sup> to 30<sup>th</sup> of January 2019. The key words were teaching, education, classroom, teachers, students, learning, teacher, student, curriculum. The result was 144880 contents.



(Figure 2: The Social bakers Export Inspiration Search)

### The Questionnaire:

A questionnaire was designed as teachers' distributions to gather information about their contributions to the social networks of teachers. At the beginning of the survey, the objective of the study was mentioned (Burgess, 2001). Moreover, it has been taken into account the clearness and concision in order to obtain a better response rate (Burgess, 2001). Cohen, Manon and Morrison (2000), stated that each survey has the ability to obtain a defendant's personal life, therefore, the survey should be designed ethically.

The questionnaire had been designed on Google Forums tool for simply distribution and analysis. The digital questionnaire helps to avoid the significant disadvantages of the paper one, because it does not allow the participants to miss any item or skip any required response, thus the researcher has not to be present for supervising the participants as they complete the questionnaire (Murray-Thomas 2003). The questions which had been divided in 7 sections and 30 items cover the theoretical frameworks on the knowledge creation and share in the TOSN. Likert scale has been selected to be utilized in this study. There is an advantage in displaying groups to the respondent in the Likert model. It reduces the time taken to complete the question, or in some cases, it increases the response rate (Burgess 2001). In the questionnaire there was privacy allowed, avoiding questions that might be abusive, and unnecessary data was not requested (Burgess 2001).

### 3.6 The Sample

The population in this study have been carefully selected based on their career and for being relevant to the study questions (Silverman 2010). The study clarifies the knowledge between the participants in the teachers' social networks. Thus, it was rational to use these social networks in the distribution of this questionnaire during the last 3 months and gain around 200 responses. The study clarifies the knowledge between the participants in the teachers' social networks. This number of responses belong to teachers from both public and private schools who teach various subjects with various numbers of experiences years.

### 3.7 Feasibility

The feasibility of the study design depends on the knowledge and competence of the research to use a mixed methods approach (Silverman 2010).

### 3.8 Reliability and Validity

Cohen, Manion and Morrison (2000) assert that regarding qualitative researches, reliability can be considered as a fit between what have been submitted as data and what truly happens in the realm of fact. The study has been carefully designed, the outcomes data will be seriously evaluated in a subject process in order to guaranty the reliability and validity.

## **Chapter Four – Findings and Discussion**

### 4.1 Results and Analysis

The Interview:

Dr. Al-Sharman focused on several points: The teacher always needs to engage in professional development programs because they deal with many variables that require them to develop themselves and constantly. However, the teachers' obligations make them play away from PD because of the additional effort and time required. He mentions that it is effective to talk about how "technology" can be used to achieve the goals of PD, but it depends on how it is used. He points out that the social networks are rich and successful tools in the field of PD. He indicates that the problem of these online virtual communities is easy to set up, but it is difficult to continue and follow the missions. Moreover, he pointed out that in formal online PD programs it is better to structure closed groups, this way makes its management more effective and is more capable of being followed up and directed to a specific issue. He adds that dealing with social networks (Facebook, Twitter, YouTube, and other digital platforms) demands awareness and focus on digital culture, skills of knowledge, critical thinking and self-monitoring. Dr. Al-Sharman confirms that its necessary for the teacher to consider time and effort to educate students in the area of digital citizenship. About the online PD platform, he states that it has the same advantages and disadvantages of e-learning. It provides an opportunity for distance learning that transcends time and space barriers and reduces costs. At the same time, direct communication between the teacher and the learner as in face-to-face learning, continues to have a flavor and essential additions to learning. Dr. Al-Sharman refers to some aspects that make teacher prefer joining to the informal social networks more than formal ones, he addressed them as freedom and distance from formalities in the learning environment (Appendix B).

Dr. Heba EL-Deghaidy focused on several points: Many governments are investing teacher training, assuming that the more it trains teachers the more it will document better statistics in the thousands. Also, governments should shift from the training model to a continuous professional development (CPD) model. She adds that by the absence of a teacher professional community, teachers will not be speaking the same language and therefore will have difficulty communicating ideas and pedagogical practices amongst themselves and their students. Teacher self-efficacy might be affected as well as students' achievement levels and results. Regarding formal and informal PD platforms she states that there are various platforms. Some are official means for PD while others are more informal means. In Egypt, the use of Facebook and WhatsApp are becoming more and more common and easy to use. Their roles are shifting from social media to a

place where ideas and links are shared. From her point of view teachers are looking for user friendly platforms but professional ones will always be structured in a better way providing different types of communication. She thinks that courses which are structured directly to enhance teachers' professional development will be different from the other social network platforms. Thus, she thinks that informal social communities will not fill the gap in teachers pedagogical training. Regarding the formal online PD programs, El-Deghaidy, as a trainer in the STEAM education program on "Edrak" platform, considers the online course being perceived as an orientation or eyeopener. In STEAM Education, online PD program can provide some level of detail to get teachers interested and aware of contemporary pedagogies. Also, discussion skills and knowledge management are recommended skills to deal with social networks as a PD tool. Finally, about STEAM Education through the social network, she advises the participants in online teachers' communities to go beyond just discussion to the actual implementation of interdisciplinary design followed by feedback (Appendix B).

The Educator Sheikha Al-Ramsi, with 21 years of experience, and with a range of awards in the field of educational excellence, acknowledges thanks to colleagues who have drawn their positive effects on her work. She remembers her training 5 hours a week by the supervisor, and she was keen to apply everything she learned. It sees a great difference in professional development programs for teachers after the introduction of digital communication. These digital communities have developed the performance of teachers by exchanging experiences and opinions and facilitating the exchange of ideas, files and discussions that enhance the performance of the educational process. She also has professional participation through the communication through the WhatsApp groups of a large number of teachers or groups E-mail, the One Drive and Dropbox. She mentions that one exciting experience in this area is that a school principal develops an online platform where teachers meet once a week. Each time, she hosts an educational expert in which the teachers discuss the educational process and the transfer of experience. As for her book published several months ago, and why she chose to publish with cost and effort, and not to choose to share the contents of the book on the Internet, she explained that the documentation of her work and what she learned and applied was the main reason, she wanted to provide this as a reference for everyone interested. She admitted that she did not expect paper publishing to be complicated until after the experiment, and then found it easier and better to create a professional website or something similar to convey experiences and ideas gained and renewed to the field. "I hope to take my next article through a special website to benefit more" she says (Appendix B).

- MOE Interview, in UAE education system there is a great shift to the tech-based learning. “The Mohammed Bin Rashid Smart Learning Initiative might be one of the largest tablet initiatives in the world. The initiative was launched in 2012 and cost \$272 million” (United Arab Emirates, 2013 cited in Tamim et al. 2015). This great initiative includes an educational portal for teachers, students, and parents. An interview will carry out with two supervisors of the Smart Learning section in the Ministry to discuss the teachers’ social networks in this portal and its impacts. An email was sent to the smart learning section and they replied by giving an appointment for the interview. One interview carried out in the Ministry of Education offices with both Ms. Halawa Al-Shehhi, the Project Manager in the Information Technology department and Ms. Aalya Mesmar, Smart Learning Specialist – e Maturity Group Leader, Smart Learning Program – Information Technology Department. The researcher explained for both what the study examines and what is its significance and discussed them in the interview questions. The interview response was sent to the researcher via email two days later (Appendix B).

The teachers’ questionnaire:

A questionnaire was designed on the Likert scale and electronically executed on Google Forms. The questionnaire which includes 5 parts, containing thirty questions, was distributed to the teachers’ social networks. In addition, the questionnaire was translated into Arabic for a greater number of responses. Over the course of three months there were 200 responses (18 English, 182 in Arabic). The data analysis provided by Google Forms has been integrated and processed for a final result and meaningful useful data for the study.

Part 1: The Professional Development in the TOSN as Communities of Practice

The first part of the questionnaire examined teachers' views on the professional development they can gain in the teachers’ online social networks TOSN in the light of the communities of practice theory. The results were as follows:

The responses have shown that the teachers’ online social networks TOSN achieve their professional development and update their professional knowledge. 76.5% of the sample agrees that they join the TOSN in order to achieve their professional development, of which 50% strongly agree with this while 4.5% disagree. 46% of respondents strongly agree that the networks speak their professional knowledge, 32% agree with the same idea, while 5% reject this view and 16% do not specify their position of rejection or approval.

The results of the questionnaire also showed that about 80% join the networks that support and encourage them to practice. In addition, 65% of the respondents consider that the professional development they acquire on social networks is more useful than traditional professional development. As for the teachers' response to the ownership of these networks by individuals or institutions, their responses differed. About 48.5% of the respondents preferred the networks established and managed by individuals and not organizations. 22% rejected this idea while about 20% chose neutrality. For the management of these networks, nearly 60% of the respondents believe that strict laws and regulations are more important than content, while 14% reject this idea. When we put the question in reverse, we get the same percentages. 58% agree that the content is more important than the regulation versus 15% rejection. There was considerable evidence that the knowledge gained by teachers in TOSN was applicable, with almost 80% agreeing to this, versus 5.5% rejection and 16% neutrality. (Table 1)

No.	The Question	S/A	A	N	D/A	SD/A
1	- I joined this Teachers' Online Social Network (TOSN) to improve my professional development.	48.5%	31%	15.5%	4.5%	0.5%
2	I joined this TOSN because I think it successfully updates my professional knowledge.	46%	32.5%	16%	5%	0%
3	I joined the TSON which is support and encourage to participate.	42.5%	36.5%	16.5%	4%	0.5%
4	I find this style of Professional Development (PD) more beneficial than the traditional PD sessions.	33.5%	32%	19.5%	11.5%	3.5%
5	I prefer to join the TOSN of persons more than one of the organizations.	27%	21.5%	29.5%	15.5%	6.5%
6	I prefer the TOSN with a solid structure than the one with valuable content and knowledge	30.5%	30%	25%	12%	2.5%
7	I prefer the TOSN with valuable content and knowledge more than the one with a solid structure.	26.5%	31.5%	27.5%	11.5%	3%
8	- The knowledge I gained in the TOSN is applicable.	30.5%	48%	16%	5%	0.5%

(Table1) Professional Development in the TOSN as communities of practice

## Part 2: The links and trust among teachers in TOSN

The second part of the questionnaire seeks the issues of relationships and links between members within TOSN and looks for the trust factor among the participants in enhancing these links, which leads to a growing knowledge in these societies, as well as how members strengthen their relationships with others in these virtual environments.

70% of the sample agreed that the reason for joining TOSN is to find people with the same hopes and professional concerns. As to the quality of the networks preferred by the participants, whether official or informal, the responses were somewhat similar, 38% expressed their satisfaction with the informal networks, 26% rejected the idea while 35% were neutral. 42% do not accept all invitations to join TOSN. 72% agreed that they were seeking information about the TOSN, its

activities, and associate members before joining. 48% join TOSN that they can trust its members, 15% reject this principle while 36% do not.

Freedom of decision to stay within TOSN or leave is a significant incentive to join these networks was agreed by 81%. 61% of respondents said that voluntary participation and non-commissioning of specific tasks was another motivation to join this type of networks. The results also indicate that participants are keen to build strong relationships within TOSN through different methods. 60% agreed that they build strong relationships through professional discussions that enrich the publications of other members. 55% agreed that they build these relations by commenting on the activities and posts of the other members. And 56% do so by placing it in the sign of admiration (Like). 44% of the sample did not agree to leave the network in the event of exposure or exposure of their posts to negative criticism by other members, while 23% expressed their willingness to do so. 73% try the knowledge they get within TOSN and often it works, while 26% try it out and find it unsuccessful.

No.	The Question	S/A	A	N	D/A	SD/A
9	- I joined this TOSN to find more people who have the same hopes and worries about our job.	25.5%	43.5%	21%	7.5%	2.5%
10	- I joined this teachers' informal social network because I trust members in it.	20%	28.5%	36%	10.5%	5%
11	- I feel more comfortable to join informal TOSN than to join the formal one.	17%	21%	35.5%	18.5%	8%
12	- Before joining any TOSN I seek good information about it, its members, and its activities.	45.5%	26.5%	20.5%	7%	0.5%
13	- I accept any invitation to join professional TOSN.	13%	23%	21.5%	24.5%	18%
14	-The motivator to join any TOSN is the freedom and decision of staying or leaving.	42%	38.5%	12%	5.5%	2%
15	- The motivator to join any TOSN is less responsibility in doing or sharing any task.	28.5%	32.5%	26.5%	8.5%	4%
16	- I try to keep my relationship stronger in the TOSN by sharing professional contents.	26.5%	37.5%	27.5%	6.5%	2%
17	- I try to keep my relationship stronger in the TOSN by discussing the professional issues in the other participants' posts.	22%	38%	28.5%	8%	3.5%
18	- I try to keep my relationship stronger in the TOSN by giving a comment on other members' posts.	21.5%	33.5%	32.5%	8.5%	4%
19	- I try to keep my relationship stronger in the TOSN by giving a "like" on other members' posts.	19%	37.5%	28.5%	10%	5%
20	- In the TOSN I prefer to avoid exciting arguments or making any trouble.	54.5%	22%	14%	6.5%	3%
21	- I leave the TOSN if anyone comments on my participation as a negative critic.	10.5%	12.5%	33%	32%	12%
22	- I try the ideas which I find in the TSON and it is often successful.	29.5%	43.5%	24%	3%	0%
23	- I try the ideas I find in the TOSN and they often do not work.	12.5%	14.5%	35%	31.5%	6.5%

(Table 2) The links and trust among teachers in TOSN

### Part 3: The case-method learning

The third part of this questionnaire reflects the importance of cases as a resource of knowledge in teachers' communities, with 77% indicating that they prefer to discuss real professional situations from peer experiences within TOSN. In addition, 65% of participants report true situations from their professional experience with TOSN colleagues in order to evaluate the actions they have taken in these situations. (Table 3)

No.	The Question	S/A	A	N	D/A	SD/A
24	- In TOSN I prefer the discussions about real situations from members' experiences.	33.5%	44%	17%	5.5%	0%
25	- In TOSN I can share a situation from my experiences to evaluate my action in it.	23.5%	41.5%	27.5%	6%	1.5%

(Table 3) The case-method learning

### Part 4: The communication skills

Part number 4 clarifies the needed technical skills to deal with virtual communities. The participants were asked: Do they join the TOSN if they cannot deal with the technology tool in this network? 33.5% acknowledge that they will join it, 36.5% disagree, it means that they will not join that TOSN, 30% are neutral. Another indicator shows that joining TOSN teach the participants important digital skills, 71% agree with that. 70% wish to pass these digital communication skills to their students. (Table 4)

No.	The Question	S/A	A	N	D/A	SD/A
26	- Involvement in TOSN taught me important digital communications skills.	19%	52%	19.5%	5.5%	4%
27	- The digital communications skills which I gained in TOSN will be passed to my students.	21.5%	48.5%	20%	6.5%	3.5%
28	- I do not join the TOSN if I cannot deal with the technology tool in this network.	13%	20.5%	30%	21.5%	15%

(Table 4) The communication skills

### Part 5: Knowledge creation and sharing

The last part of this survey about professional knowledge in the TOSN, whether teachers copy and share knowledge only or they can create it as well. The results show that knowledge creation is nearly 40% while knowledge duplicate is around 25%. In both questions around 40% did not show a clear view, they are neutral.

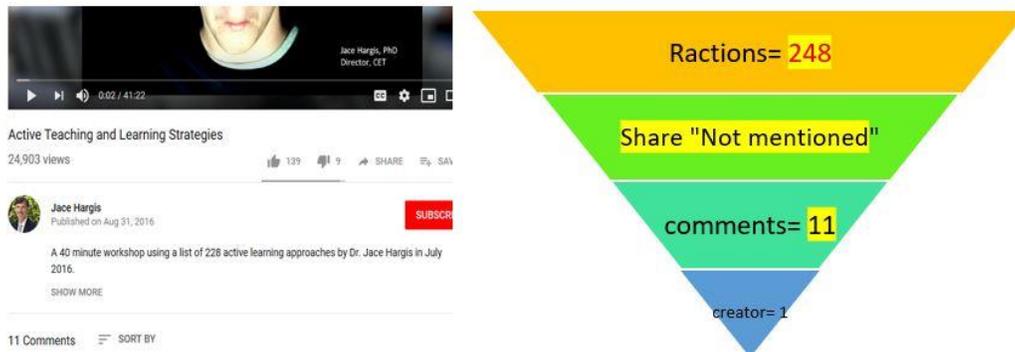
No.	The Question	S/A	A	N	D/A	SD/A
29	- Most of the participation which I share in TOSN is copied.	4.5%	21%	39.5%	24%	11%
30	- Most of the participation which I share in TOSN I created it.	11.5%	29%	40%	14%	5.5%

(Table 5) Knowledge creation and sharing

## The research hypothesis

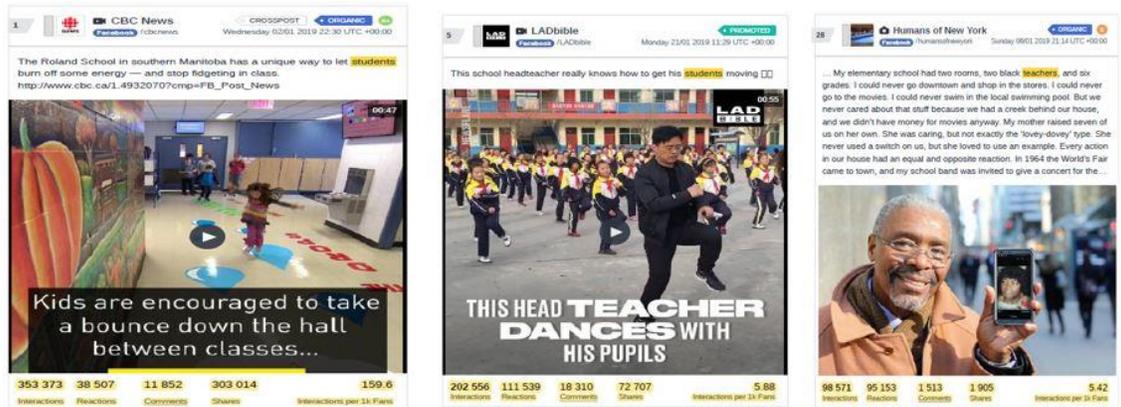
As for the hypothesis of the study, it is assumed that there is an inverted taxonomy representing the categories of participants in online teacher communities. To discuss this hypothesis and test its validity YouTube platform was observed by the researcher, and Facebook platform analysis by the social network analysis tool. The data collected from the observations agreed with the hypothesis in some details and differed with others. The study hypothesized that the categories of those who interact with knowledge in the TOSN constitute a constant classification that takes the form of a pyramid upside down. At the bottom of this taxonomy, it is the smallest category which represents participants as producers and editors. Then comes the category that expands this knowledge through comments. The following category is the group that republishes and shares these posts. The following category is the reactors class through the expressive faces and the signs of "Like". Then outside the classification, there is a larger class, a non-interacting one.

The data proved that the following assumption was true that the proportion of reactors of all groups was far less than that of non-active silent participants. The following illustration of a YouTube video about active teaching and learning strategies shows that one person who created the knowledge "professional video", 29903 viewers saw this video as a future for this knowledge. Only 11 people interacted with this content via comments, and only 248 people responded with like or dislike signs.



(Figure 3: Categorize the interaction with professional knowledge on you tube platform)

The data showed a difference in the ranking of the categories of the interactions and the instability of this arrangement, where it varies from one content to another. As shown in the second and third pictures the data is agreed the hypothesis, but in the first picture it disagreed because the number of “reactions” is less than the number of “shares”.



(Figure 4: The interactions rank)

## 4.2 Discussion

The professional development in TOSN as communities of practice:

7 of the largest educational awards received by Sheikha Al-Ramsi who participated in this study. When asked about the factors of this success, she replied that there were colleagues who showed her the way at the beginning of her job as a teacher, also, there was a supervisor who trained her five hours a week. In turn, she was keen to apply that knowledge to her work. In his interview, Al-Sherman mentioned professional development as a continuing teacher's need, while EL-Deghaidy said that governments' investment in professional development programs for teachers achieves significantly better results. All the above agrees with Nielsen et al. (2016) who consider that enrollment in vocational training programs is the most important indicators of teacher competencies, as well as references to some previous studies that have linked teacher characteristics and student outcomes. For governments and educational systems, Curcher (2014) points out that the Finnish system - the world's first-ranked- considers the professional development of teachers as a cornerstone.

Despite all this emphasis on the professional development of teachers, the lack of these programs is highlighted in many educational systems, prompting some of them to think of new patterns of technology-based professional development programs. Jones and Dexter (2014) say that teachers need to learn modern teaching methods, especially the methods based on technology to deal with recent students. In Europe, according to the report "learning in the Digital Age 2014", 70% of teachers recognize their need for training and development. Çağiltay 2006 suggests that the development of communication offers opportunities to form communities of practice for teachers. The idea is confirmed by Mahapatra (2015) who sees India gaining an advanced position in the use of the Internet, providing Indian teachers with access to professional development programs

online to raise their competencies. As a result of that, teachers join the online PD program with its two kinds formal and informal programs. This study seeks to point out this PD in the teachers' online social networks. The teachers' questionnaire shows that around 80% of the participant join TOSN to improve their PD. 80% believe that TOSN successfully update their professional knowledge. 65% consider that the PD they acquire on TOSN is more useful than traditional PD.

From EL-Deghaidy point of view, informal platforms are widespread among teachers because they are easy to use but will not fill the gap in teacher training, as they do not reach the same organizational level as official platforms. On the other hand, Al-Sharman refers to a sensitive point that technology is not the point but how to use this technology. In the teachers' questionnaire 48.5% preferred the networks established and managed by persons, 22% rejected, 20% chose neutrality. Thus, there are factors related to how this online PD platforms are used. Regarding the TOSN management 60.5% prefer the solid structure one, nearly 27% were natural. This agrees with Siemens 2005 idea that the pipe is more important than its content, because our ability to know what we need in the future is more important than what we know now. Finally, the main aim of these communities is providing teachers with educational knowledge that makes a difference in their classroom activities and professional performance. Do these communities achieve this goal? 80% of the respondents recognize that the knowledge they acquire in TOSN is achievable.

Learning in a process outside the individual sphere and occurring in a social context, so that the success of this learning depends on relationships and interprets this process on the theoretical framework is interdependence. Karen Stevenson relies on the principle of confidence in the success of this learning. Stephenson poses questions that determine the type of people you share: sharing information, investigating what is happening, thinking innovatively, who will get the experience, and who will get professional guidance, who will improve your methods (Kleiner 2003).

Knowledge creation and sharing:

Kleiner (2003) mentions the view of Stephenson that people have a wealth of implicit knowledge that is difficult to capture, and trust is the channel through which knowledge flows. Thus, knowledge sharing in TOSN is based on the nature of the relationships among the participants. The second part in the teachers' survey discussed the issue of trust between the members in the TOSN and its impact on knowledge generation and exchange. 70% agree that they join TOSN to find people who have the same career hopes and worries. This is matching with the purposes of

communities of practice theory, members meet to achieve a common goal or meet a common challenge (Lave and Wenger's 1991, cited in Homan 2014).

Serrat (2017) points out that knowledge is linked to the networks which generate this knowledge and use it and affects how individuals and communities work. Also, innovation stems from the exchange of knowledge between organizations. Stevenson (cited in Kleiner 2003) illustrates the networks through key persons: the person with whom you share daily information, the person with whom you investigate, the person with whom you discuss the ideas of innovation, the person from whom can derive your experience, the person who provides you with professional advice, the person who works on the success of your methods. Hence, 72% of the sample in this study seek information about the TOSN and about its members before joining it. 48% acknowledge that they join the TOSN which they can trust its members.

In a previous study, Homan 2014, seeks the social relationships between the teachers in one secondary school and its impact on their use of new technologies. Homan designed a questionnaire for teachers. The aim of the questionnaire was the relationship between teachers. It asks teachers to answer questions such as: who your close colleague within the school or professional knowledge network is, who is the person you ask for advice, and who you ask for technology instructions. The study concluded that in the absence of opportunities to develop integrated teaching methods, teachers resort to their personal connections and participate in digital and social learning. And that professional networks of teachers are an integral part of teachers and digital educational development. The study considers the teachers' social networks as a good alternative to professional development programs. therefore, it examines these social networks on the Internet to clarify the professional knowledge provided by these networks and their applicability and the factors that negatively and positively affect them.

The teachers' online social networks (TOSN) considered as informal social platforms such as Facebook, Twitter, you tube, LinkedIn, etc. where teachers can create communities to find others who share them the same hops and the same worries about their career. In these digital communities, teachers can share teaching strategies and plans, new educational ideas and discussions. In this way the earlier studies classify these networks as communities of practice. "Lave and Wenger's (1991) Communities of Practice (CoP) theory argues that professionals form communities in which distributed knowledge is shared in order to accomplish a common goal or solve a common problem" (Homan 2014 p. 20).

The success of TOSN is based on the knowledge creation and sharing. Teachers' questionnaire seeks to find out the teachers' attitude toward this point. 81% prefer to join TOSN because of less

responsibility, but 60% of the responses reported that other members participate by discussing the common issues. 55% participate by commenting on other members' posts. 56% participate by giving (Like) on other members' posts.

Previous literature has presented the issue of negative criticism and its impact on members within learning communities. Serrat 2017 agrees that the interaction grows in a climate of safety and trust. This fruitful interaction is disabled when people are subjected to unfair negative criticism. Community groups in educational organizations promote opposition and debate as positive sources of learning. The development of trust requires careful attention in the management of relations between members. In the questionnaire data analysis, 23% of sample leave the TOSN if they face any negative criticism while 44% do not care by this negative criticism.

Based on that trust and relationships play an effective role in knowledge creation and sharing. 73% of participants report that they apply the ideas which they gained in the TOSN and they found it successful. Regarding knowledge creation and sharing among teachers in OTSN, the results are that knowledge creation is around 40%, and knowledge duplicate is around 25%. In both questions around 40% did not show a clear view, they are neutral. Thus, knowledge generation need to be enhanced. The teachers' online platforms should encourage teachers to represent and create new knowledge.

Case-based learning method:

The theories of effectiveness have been cited as the role of social interaction, because effectiveness is the result of personal experiences, of reinforcement and modeling. (Bandura, 1977 cited in Homan 2014). The study questionnaire finds out that 77% prefer to discuss real professional cases from peer experiences within TOSN. Moreover, 65% report that they share real situations from their professional experience with TOSN colleagues in purpose of evaluating the actions they have taken in these situations. Vygotsky says in his studies on Proximal Development Zone, that the most experienced teachers should have an impact on the thinking of less experienced teachers through case discussions (Levin 1995).

The Emeriti Ministry of Education considers the case-method learning in the different MOE online teachers' communities. In the interview the two interviewees state that In the Smart Majlis platform, teachers have the authority to create special groups, that may need permission or may be open. It provides an open discussion forum for sharing practices, issues and solutions. As well

as the Yammer platform, which is similar to Facebook, teachers send their posts about everything related to their concerns or concerns and can get help from any fellow within MOE (Appendix).

Social networks skills:

In our present time learning occurs in diverse ways, learning has become a continuous process in which technology changes the formation of our brains. The tools we use also define our thinking style (Siemens 2005). In the interview Al-Sharman argues that “dealing with social networks Facebook, Twitter, YouTube, and other digital platforms, demands awareness and focus on digital culture, skills of knowledge, critical thinking and self-monitoring”. Moreover, it is necessary for the teacher to consider so as to give time and effort to educate students in the area of digital citizenship (Appendix). On the same line, EL-Deghaidy assumes social networks skills “would be related to discussion skills and knowledge management” (Appendix B). Regarding to platforms which need specific skills, the questionnaire shows that 33.5% will not join these platforms, 36.5% disagree, it means that they will not join that TOSN, 30% are neutral. A significant response which reflects that joining TOSN teach the participants important digital skills, 71% agree with that. 70% wish to pass these digital communication skills to their students. That meets the vision of MOE which aims to achieve the social networks skills for both teachers and students “There are two frameworks for both teachers and students. By following the criteria set in each one of them, teachers can build not only their competencies but also help their students in leveraging their digital skills in the e-maturity model” (Appendix B).

The Research Hypothesis

The purpose of this study is primarily to examine the knowledge of teachers on social networks, to create and share this knowledge and the factors that influence it. The study was designed on the assumption that there is a classification of the categories of those interacting with this knowledge, and that these categories are arranged consistently. But the research proved that the order presented by the hypothesis did not apply to all analyzed cases.

## **Chapter Five – Conclusions and Recommendations**

### 5.1 Conclusion

The rapid development of ICT enhances the links between individual unity and organizations. Thus, a new theoretical framework defines this type of network within the context of the concept of interdependence. "Connectivism provides a learning model that recognizes tectonic transitions in society where learning is no longer an individualized activity, and how people work, and function is changed when new tools are used" (Siemens 2005). Thus, digital societies are a new educational tool in the theory of interdependence. Therefore, studies examine the aspects that affect these linkages among participants and that can develop or fail these digital networks.

The aim of this study is to examine the teachers' social networks and identify the conditions in which participants are guaranteed an effective knowledge contribution.

Teachers' online social networks TOSN as communities of practice, regarding the management of these networks, the data showed two basic points of view. The first point of view prefers firm management, albeit at the expense of content, while others prefer content quality, albeit at the expense of the laws governing these networks.

Based on the data provided by the study tools, we find that teachers join the networks that support and encourage them to practice. This means the need to place the stimulus factor in the hands of developers of professional platforms for teachers. The decision-making freedom of the teachers to join these networks, where 80% of the sample acknowledge that they join these communities because they have the freedom to stay or leave at any time. Another factor affecting the sharing of knowledge among teachers on social networks is the problem of trust. The study examined the confidence factor and found that it plays a large role in joining or withdrawing networks. And that a large number are looking for members who trust them before sharing knowledge with them. Case-based learning is a source of knowledge in teacher communities. 77% indicate that they prefer to discuss real professional attitudes from peer experiences within the TOSN. In addition, 65% of respondents report real attitudes from their professional experience with TOSN colleagues in order to assess the actions they have taken in these situations. This approaches the narrative method, which is characterized by arousing the curiosity of the participants and integrating them into various educational experiences, enriching their educational knowledge. TOSN improves participants important digital skills, 71% agree with that. 70% want to pass these digital communication skills to their students. Through interviews, this study concluded that the

skills needed to deal with electronic platforms are related to discussion skills and knowledge management and self-organization.

The data showed considerable evidence that the knowledge gained by the teachers in the TOSN is applicable, with the approval of nearly 80% of the questionnaire sample. That is because this knowledge is related to real teaching and learning activities and comes from teachers' experiences.

A survey of 200 teachers showed that the TOSN's online social networking networks (TOSN) are achieving their professional development and modernizing their professional knowledge. 76.5% of respondents agreed to join the TOSN in order to achieve their professional development, 50% of them strongly agree. This means, in line with previous studies, that the social networks of teachers have succeeded in providing vocational training for teachers. In addition, 65% of respondents believe that the professional development they acquire on social networks is more beneficial than traditional professional development.

## 5.2 Reflections

This section reviews the researcher's learning experience in his efforts to develop research skills to implement this study. This research experience can be described as one of the experiential learning forms, where teachers provide students with abstract concepts in a way that achieves learning through action and practice, making it compatible with the structural learning theory, where the results of learners are varied and unexpected and in which learners assess their own learning.

During the previous courses in the research methods, and the work of some research studies, the researcher acquired some basic skills in the design and implementation of studies and academic research. The work in this study added to the researcher a lot of new research skills, as well as refinement of skills previously possessed.

The study enhanced the ability to find the appropriate literature for the study and the speed of reading and to develop points that fit the search faster than before. In the interest of the results of the research, there was a focus on the titles and topics and modernity of the publication of this literature. As the subject of the study on virtual communities is changing rapidly as a result of the successive developments of means of communication. The use of artificial intelligence programs in data analysis was a great addition to the researcher in this study, where dealing with Google Forms for the creation of questionnaires and data analysis is a great benefit to replace the complex equations and programs used in the past. The observation as a tool of study added a new

dimension to the researcher as a reporter and closely follows an exciting dynamic process. In order to achieve the reliability and validity of the study, the researcher practices qualitative and quantitative research methods, leading to the use of different data collection methods, using questionnaires, interviews, and observation.

Interview in this study was an important addition to the researcher. The semi-structured interviews on which the study was based included three categories dealing with the teachers' professional social networks. The first category is academics who are involved in designing and developing professional development programs for teachers and participating in the teaching process. The second category is the learning management system in MOE, the Smart Learning Specialist - E-Maturity Group Leader and Project Manager of the Information Technology department. The third category is for educators who have pedagogical knowledge and choose the paper published instead of electronic publishing in these communities. The researcher benefited from this diversity in the interviews linking the divergent points to take the subject of the study from all theoretical and practical aspects, and to produce results with validity and reliability.

The researcher gained a deep understanding of the subject of the study and reached recommendations and proposals for the study that would achieve better results. The researcher also received issues related to this study. These issues raise questions worthy of examination, which represent opportunities for future research projects.

### 5.3 Limitations

The study faced some limitations that are recommended as future studies on the teachers' professional development on social networks. Although a digital questionnaire was designed for ease of distribution and a great deal of responses, the number of participants in the survey was less than expected. In addition, it is recommended to conduct additional interviews with teachers to allow them to express their views further through open questions. Lack of literature about professional use in social networking platforms is another challenge, where time and effort are demanded to obtain relevant resources. The study sought to examine the interaction with the cognitive content in TOSN through a specific classification of the categories of this interaction, but the results found that these categories are highly intertwined, difficult to separate and not governed by an arrangement. Future studies may find a way to address this hypothesis.

#### 5.4 Recommendations

The digital platforms for teacher development and professional development are being increased, hence, developers of formal or informal platforms must be familiar with the purpose of the platform, the culture of the teachers, the context of their career, and the complexity or simplicity of the platform. Teachers are not equal but have different abilities and needs, so, it is recommended to provide them with the opportunity to share emotional experiences, also, the motivation for knowledge creation, and provide opportunities for different roles of participation such as explicit and anonymous participation. Case-based is a common effective aspect in teachers' online PD. This study aims to reflect these benefits on the formal online PD platforms, so they can create a successful cases bank by establish a competition among teachers to select effective cases and vote for define the winner one then they gather all these useful practices and put them in a bank which teachers can easily access to learn.

In the MOE interview they mention that teachers' communities in LMS platform are observed by the principal that is lead to a couple of points. First one is that 79% of the participants in the teachers' questionnaire acknowledge that they join the TOSN which is support and encourage them to participate. Thus, principals can be warned about this issue in order to plan how can support and encourage teachers to take a part in these learning communities. The second point is that based on the response of MOE interview the principal deals with the internal conflict (In case) between teachers as a result of negative critics or something similar, and in the light of the impact of the negative criticism among the participants, principals should shape internal organization roles to avoid these issues.

Future studies can examine the relationship between teachers who are more active in the TOSN and the results of their students where the acquired professional development is supposed to lead to an improvement in the learning outcomes of the students.

## **References**

- Bell, J., (1999). *Doing your Research Project: A guide for first – time researchers in education and social science*. 3rd ed Birkshire: Open University Press.
- Cohen, L., Manion, L. and Morrison, K. (2000). *Research Methods in Education*. 5th ed. London: Routledge Falmer.
- BARRIBALL K. L. & WHILE A. (1994) *journal of Advanced Nursing* 19,328-335 Collecting data using a semi-structured interview: a discussion paper
- Burgess, F. T. (2001). A general introduction to the design of questionnaires for survey research. INFORMATION SYSTEMS SERVICES, *Guide to the Design of Questionnaires*
- Boudah, D. J. (2011). *Conducting Educational Research: Guide to Completing a Major Project*. SAGE Publications, Inc.
- Murray-Thomas, R (2003). *Blending Qualitative and Quantitative Research Methods in Theses and Dissertations*. California: Corwin Press, Inc.
- Silverman, D. (2010). *Doing Qualitative Research*: Los Angeles: 3<sup>rd</sup> ed Sage.
- Kemp, S. (2019). Digital 2019: available at: <https://wearesocial.com/global-digital-report-2019>
- Manca, S. and Ranieri, M. (2016). Facebook and the others. Potentials and obstacles of Social Media for teaching in higher education. *Computers & Education*, 95, pp.216-230.
- Levin, B. (1995). Using the case method in teacher education: The role of discussion and experience in teachers' thinking about cases. *Teaching and Teacher Education*, vol. 11 (1), pp. 63-79.
- Nilsen, T. & Gustafsson, J. (2016). Teacher quality, instructional quality and student outcomes.
- SERRAT, O. (2018). *KNOWLEDGE SOLUTIONS*. [S.I.]: SPRINGER VERLAG, SINGAPOR.
- Jöns, H., Meusbürger, P. & Heffernan, M. (2017). *MOBILITIES OF KNOWLEDGE*. 10th edn. [Place of publication not identified]: SPRINGER INTERNATIONAL PU.
- Drummer, J., Hakimov, G., Joldoshev, M., Köhler, T. & Udartseva, S. (2018). Vocational teacher education in central Asia.
- Jones, W. & Dexter, S. (2014). How teachers learn: the roles of formal, informal, and independent learning. *Educational Technology Research and Development*, vol. 62 (3), pp. 367-384.

- Anderson, T. & Elloumi, F. (2008). The theory and practice of online learning. Edmonton: AU Press.
- Johnson, B.R. & Onwuegbuzie, A. J. (2004). Mixed methods research: a research paradigm whose time has come. Educational Researcher, vol. 33(7), pp.14-26.
- Johnson, B. & Christensen, L. (2012). Educational Research: Quantitative, Qualitative and Mixed Approaches. 4th ed. California: SAGE Publications, Inc.
- Wragg, E. C. (1999). An introduction to classroom observation. 2nd edn. London: Routledge.
  
- Siemens, G. (2005). Connectivism: A Learning Theory for the Digital Age. Available at: [http://www.itdl.org/journal/jan\\_05/article01.htm](http://www.itdl.org/journal/jan_05/article01.htm)
  
- Homan, E. (2014). Digital Pedagogies and Teacher Networks: How Teachers Professional Learning and Interpersonal Relationships Shape Classroom Digital Practices. Available at: <https://deepblue.lib.umich.edu/handle/2027.42/110383>
  
- Bampton, R. & Cowton, C. (2002). The E-Interview. FORUM: QUALITATIVE SOCIAL RESEARCH Volume 3, No. 2, Art. 9 May 2002.
  
- Baran, B. Çağiltay, K. (2006). KNOWLEDGE MANAGEMENT AND ONLINE COMMUNITIES OF PRACTICE IN TEACHER EDUCATION The Turkish Online Journal of Educational Technology – TOJET ISSN: 1303-6521 volume 5 Issue 3 Article 3.
  
- Curcher, M. (2014). From North to South: An Examination of a Finnish Online Teacher Development Program Implemented in Brazil. Available at: <https://www.researchgate.net/publication/270899226>
  
- Saifuddin, K. & Strange, M, H. (2016). School Teacher Professional Development in Online Communities of Practice: A Systematic Literature Review. at: <https://www.researchgate.net/publication/303864147>
  
- Konstantinidis, A. & Theodosiadou, D. (2013). Web 2.0 tools for supporting teaching. at: <https://www.researchgate.net/publication/288462343>

## Appendix A

Survey links and analysis:

<https://forms.gle/RqCNz9v5xojUeDNV9>

← Knowledge Movement in the Teachers' Online Social Networks "TC" ☆

QUESTIONS RESPONSES 18

Section 1 of 7

### Knowledge movement in the Teachers' Online Social Networks "TOSN"

This is an invitation to hear from you about the knowledge movement in the Teachers' Online Social Networks "TOSN" such as Facebook, Twitter, Instagram, LinkedIn, YouTube and others. This study aims to examine the real value of this knowledge, how we can improve it and how to invest it as Teachers' Professional Development through sharing different topics from the field of education, like new methods used in teaching, class management, student assessments, etc. It will take around 4 minutes. Feel free to contact me for any inquiry about this survey

Thanks in advance  
Ashraf Shawky Alrassoul  
Education ICT researcher - Master Student - The British University in Dubai  
0503213208

Image title

<https://forms.gle/MqkQQQqatE63ydPN6>

تبادل المعرفة بين المعلمين على صفحات الشبكات الاجتماعية ودورها في التطوير المهني للمعلم ☆

QUESTIONS RESPONSES 182

Section 1 of 7

### تبادل المعرفة بين المعلمين على صفحات الشبكات الاجتماعية ودورها في التطوير المهني للمعلم

رئيسي المعلم الفاضل، رئيسي المعلمة الفاضلة/ أدعوك للمشاركة في هذه الدراسة التي تبحث في المعرفة المهنية التي يحصل عليها المعلم في شبكات التواصل الاجتماعي مثل فيس بوك، تويتر، لينكدين، إنستغرام، وغيرها من الشبكات الاجتماعية الافتراضية التي تنشأ عليها صفحات خاصة بالمعلمين يتبادلون فيها خبرات مهنية ومعارف أكاديمية تخص التخطيط الإداري الصفية للتدريس والاختبارات وألوانها وغير ذلك من الاهتمامات المشتركة بين المعلمين. تهدف هذه الدراسة إلى رصد حقيقة هذه المعرفة ومدى أهميتها، وكذلك مدى قابليتها للتطبيق ومن ثم تقييم هذا النوع من التطوير المهني للمعلمين وبحث سبل تعزيزه.

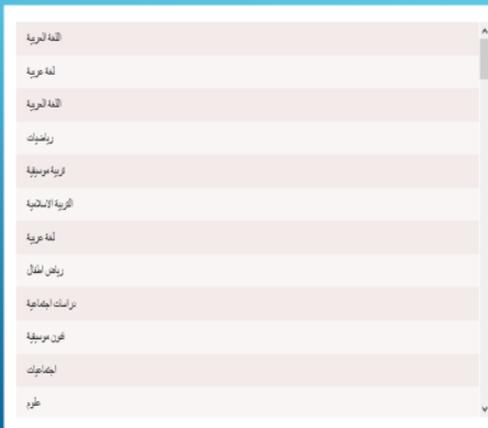
يشترق هذا الإشتياق 4 دقائق تقريبا، وإذا كان لديك أي استفسار حول هذه الدراسة لا تتردد في الاتصال بي.

تظنوا وإقر الشكر مقدما  
أشرف شوقي الراسول  
باحث تكنولوجيا التعليم بدرجة الماجستير - الجامعة البريطانية في دبي  
0503213208

## The Questionnaire analysis

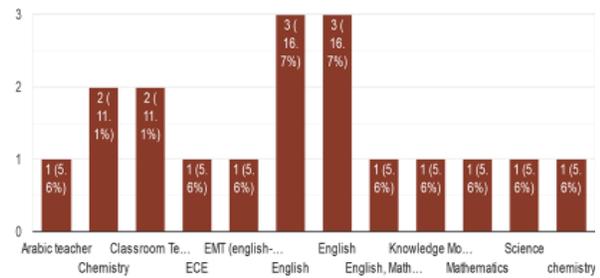
# KNOWLEDGE MOVEMENT IN THE TEACHERS' ONLINE SOCIAL NETWORKS "TOSN"

ASHRAF SHAWKY AL-RASSOUL



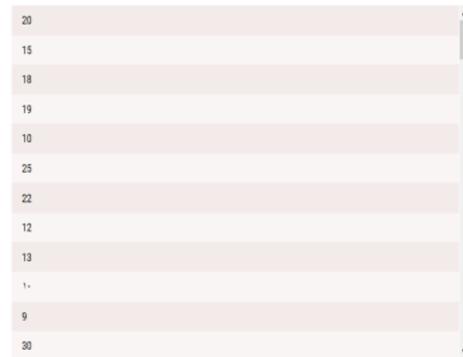
### Subject:

18 responses



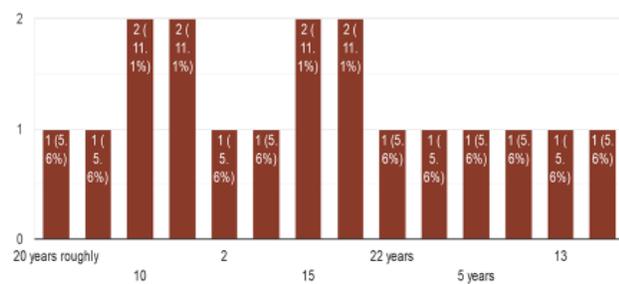
### عدد سنوات الخبرة في التدريس

182 responses



### Years of Experience:

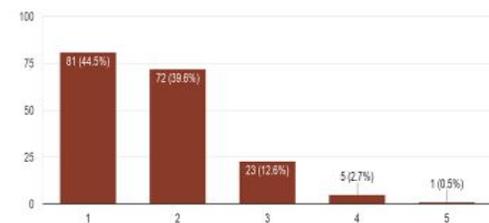
18 responses





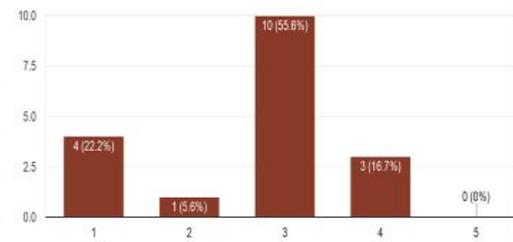
3- أشارك في مجتمعات المعلمين على شبكات التواصل الاجتماعي التي تحفزني وتشجعني على المشاركة فيها.

182 responses



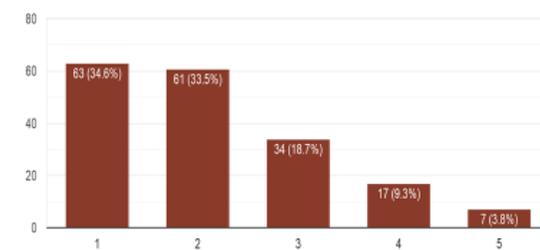
3- I joined the TSON which is support and encourage to participate.

18 responses



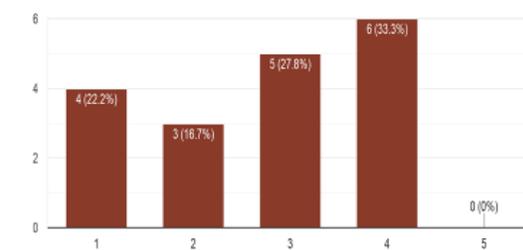
4- أجد أن هذا النمط من التنمية المهنية (القائم على شبكات التواصل الاجتماعي) أكثر إفادة من التنمية المهنية التقليدية.

182 responses



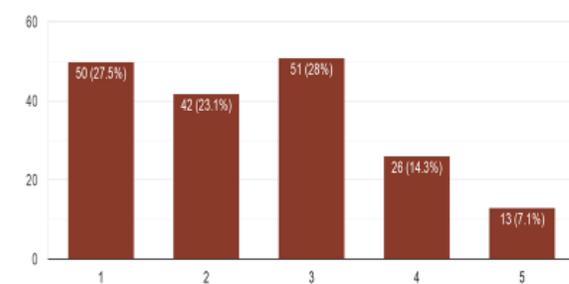
4- I find this style of Professional Development (PD) more beneficial than the traditional PD sessions.

18 responses



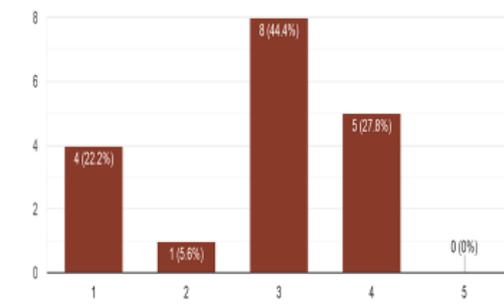
5- أفضل الانضمام لمجتمعات المعلمين على شبكات التواصل الاجتماعي التي يديرها أشخاص على مؤسسات الانضمام لصفحات كثيرها مؤسسات.

182 responses



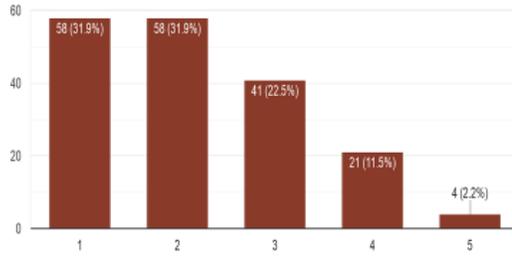
5- I prefer to join the TOSN of persons more than one of the organizations.

18 responses



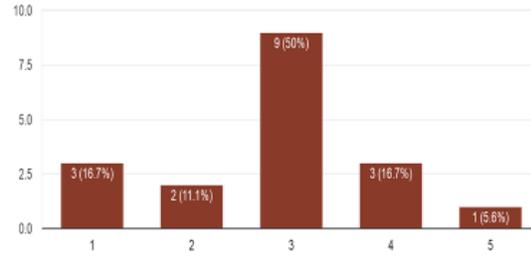
6- أفضل الانضمام لمجتمعات المعلمين على شبكات التواصل الاجتماعي التي تتسم بالجدية والقوانين التنظيمية الحازمة أكثر من غيرها وإن كان ذلك على حساب المحتوى المعرفي فيها.

182 responses



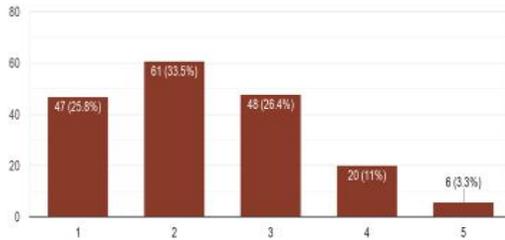
6- I prefer the TOSN with a solid structure than the one with valuable content and knowledge.

18 responses



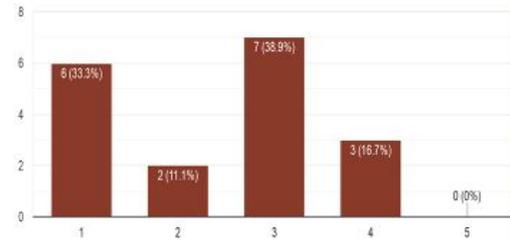
7- أفضل الانضمام لمجتمعات المعلمين على شبكات التواصل الاجتماعي التي تتسم بالمحتوى المعرفي المفيد أكثر من غيرها وإن كان ذلك على حساب القوانين التنظيمية الحازمة فيها.

182 responses



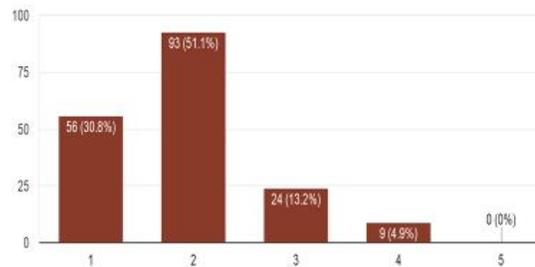
7- I prefer the TOSN with valuable content and knowledge more than the one with a solid structure.

18 responses



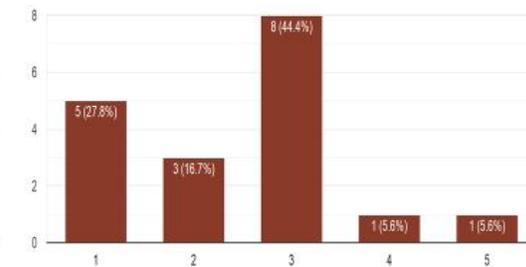
8- أجد المعرفة التي اكتسبتها من مجتمعات المعلمين على شبكات التواصل الاجتماعي قابلة للتطبيق.

182 responses



8- The knowledge I gained in the TOSN is applicable.

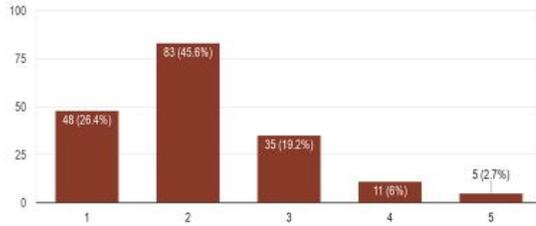
18 responses



## Part 2

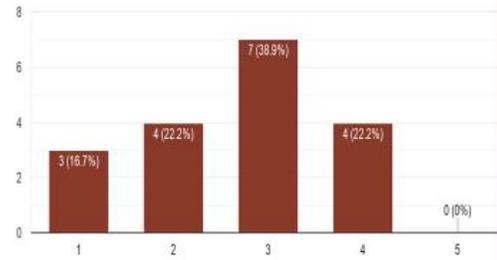
9- أشارك في مجتمعات المعلمين على شبكات التواصل الاجتماعي بهدف التواجد مع أشخاص لهم نفس طموحتي ومخاوف المهنة.

182 responses



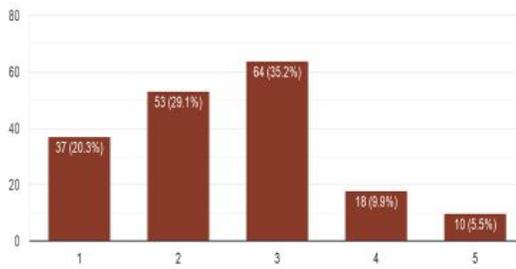
9- I joined this TOSN to find more people who have the same hopes and worries about our job.

18 responses



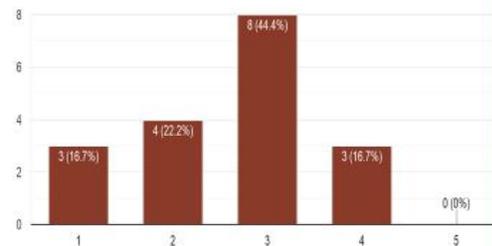
10- أشارك في هذه المجتمعات غير الرسمية للمعلمين لأني أتق في الأعضاء المشاركين فيها.

182 responses



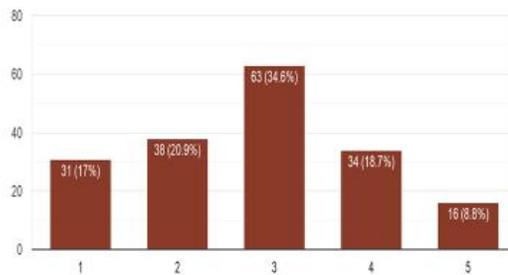
10- I joined this teachers' informal social network because I trust members in it.

18 responses



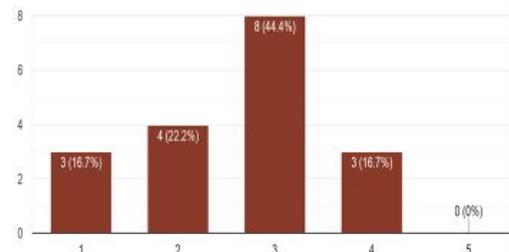
11- أشعر بالارتياح في الانضمام لمجتمعات المعلمين المهنية غير الرسمية أكثر من مثيلاتها الرسمية.

182 responses



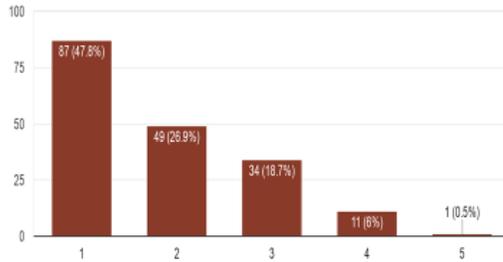
11- I feel more comfortable to join informal TOSN than to join the formal one.

18 responses



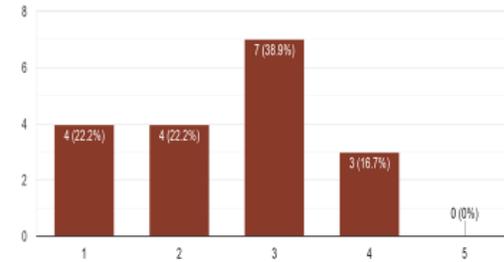
12- قبل الانضمام لمجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي أتحري جيدا عن هذه المجموعة وأهدافها والأعضاء المشاركين فيها وعن الأنشطة التي تقوم بها.

182 responses



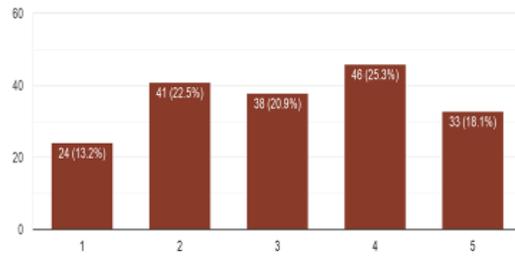
12- Before joining any TOSN I seek good information about it, its members, and its activities.

18 responses



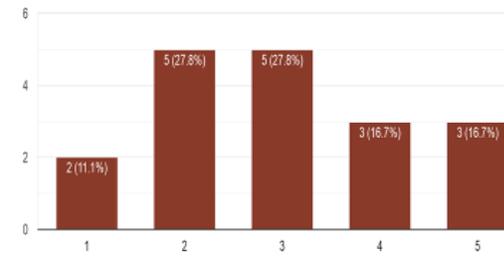
13- أقبل أي دعوة للمشاركة في مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي.

182 responses



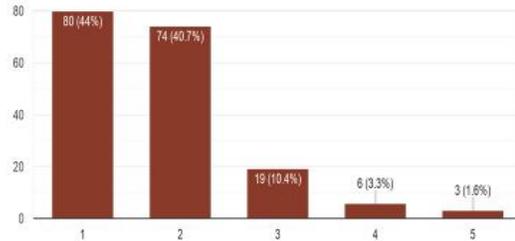
13- I accept any invitation to join professional TOSN.

18 responses



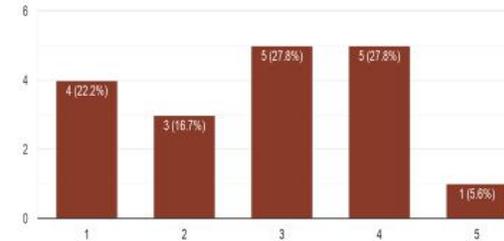
14- من مزايا الانضمام لمجتمعات المعلمين على شبكات التواصل الاجتماعي "حرية القرار في البقاء فيها أو مغادرتها في أي وقت".

182 responses



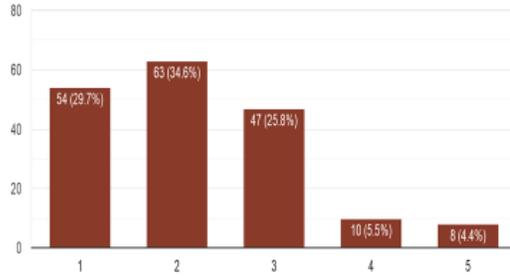
14- The motivator to join any TOSN is the freedom and decision of staying or leaving.

18 responses



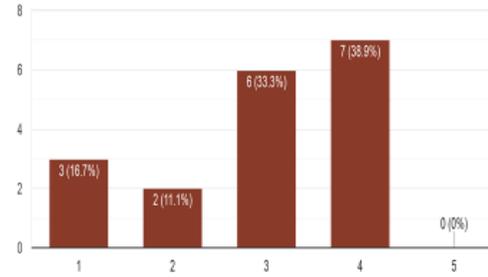
15- من مزايا الانضمام لمجتمعات المعلمين على شبكات التواصل الاجتماعي "عدم وجود مسؤولية أو تكليف-معين بلءاء أئ دور ففها".

182 responses



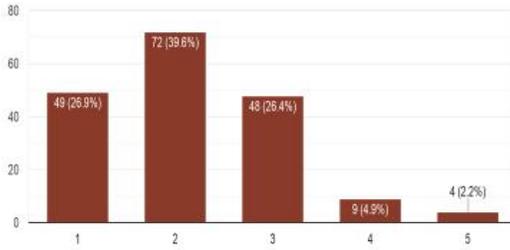
15- The motivator to join any TOSN is less responsibility in doing or sharing any task.

18 responses



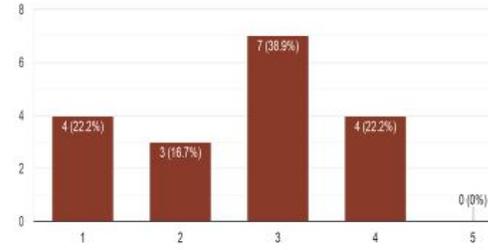
16- أءول تقوية علاقتي مع أعضاء مجتمعات المعلمين على شبكات التواصل الاجتماعي من ءلال-مشاركة المنشورات المهنية.

182 responses



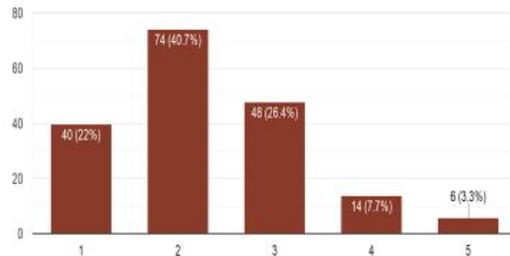
16- I try to keep my relationship stronger in the TOSN by sharing professional contents.

18 responses



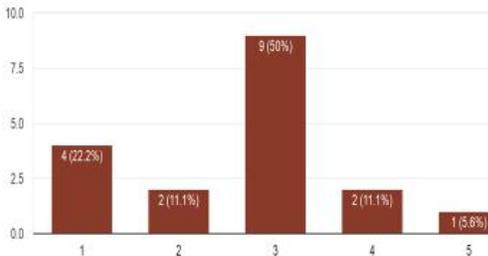
17- أءول تقوية علاقتي مع أعضاء مجتمعات المعلمين على شبكات التواصل الاجتماعي من ءلال مناقشة القضايا المهنية في منشورات باقي الأعضاء.

182 responses



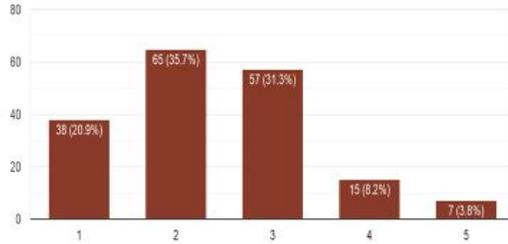
17- I try to keep my relationship stronger in the TOSN by discussing the professional issues in the other participants' posts.

18 responses



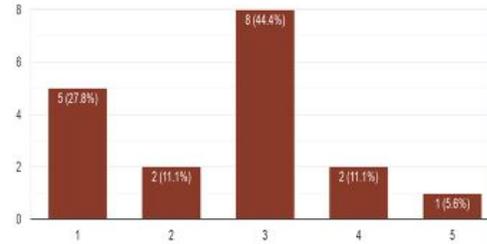
18- أحول تقوية علاقتي مع أعضاء مجتمعات المعلمين على شبكات التواصل الاجتماعي من خلال التعليق على مشاركات الأعضاء الآخرين.

182 responses



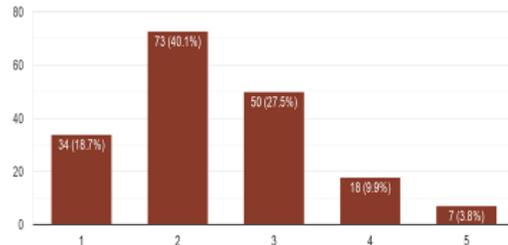
18- I try to keep my relationship stronger in the TOSN by giving a comment on other members' posts.

18 responses



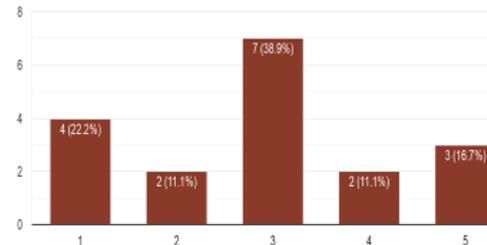
19- أحول تقوية علاقتي مع أعضاء مجتمعات المعلمين على شبكات التواصل الاجتماعي من خلال إشارة "إعجاب" على مشاركات الأعضاء الآخرين.

182 responses



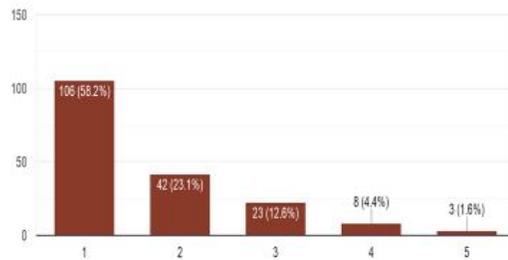
19- I try to keep my relationship stronger in the TOSN by giving a "like" on other members' posts.

18 responses



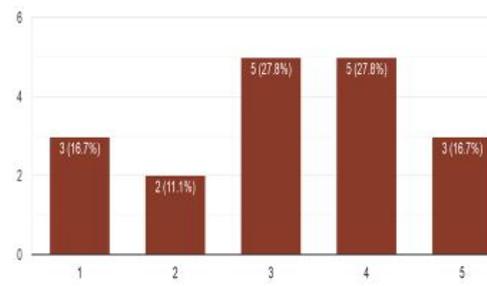
20- في مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي أتجنب مناقشة القضايا المثيرة للجدل -وضع المشكلات.

182 responses



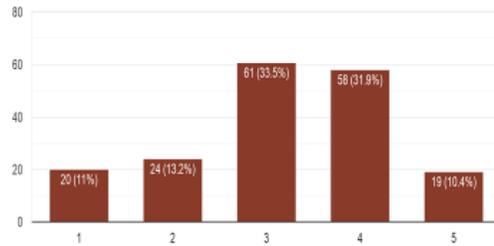
20- In the TOSN I prefer to avoid exciting arguments or making any trouble.

18 responses



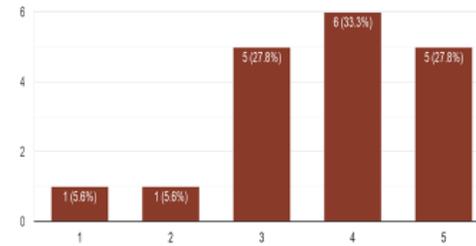
21- أعدد مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي إذا تعرضت مشاركتي لنقد سلبي من أحد الأعضاء

182 responses



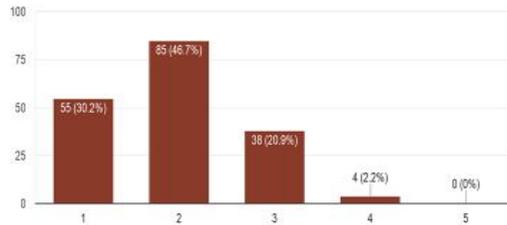
21- I leave the TOSN if anyone comments on my participation as a negative critic.

18 responses



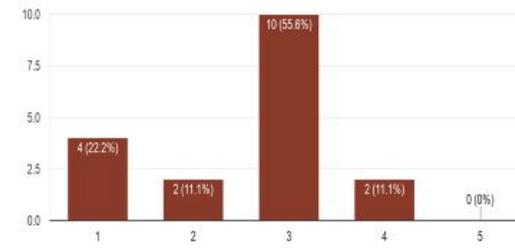
22- أجرب تطبيق الأفكار والمعارف التي أحصل عليها في مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي وأحياناً أجدها ناجحة

182 responses



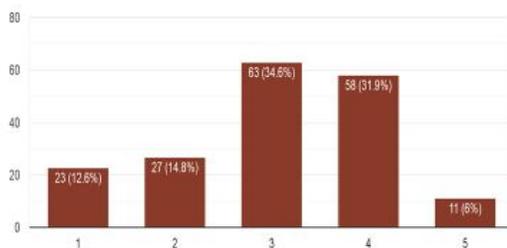
22- I try the ideas which I find in the TOSN and it is often successful.

18 responses



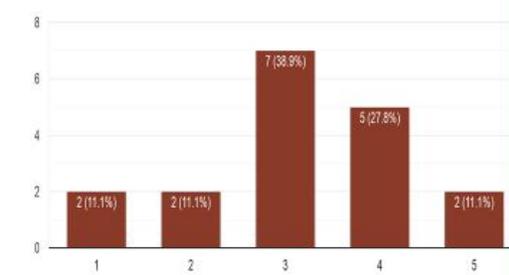
23- أجرب تطبيق الأفكار والمعارف التي أحصل عليها في مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي ولكن في الغالب لا أجدها ناجحة

182 responses



23- I try the ideas I find in the TOSN and they often do not work.

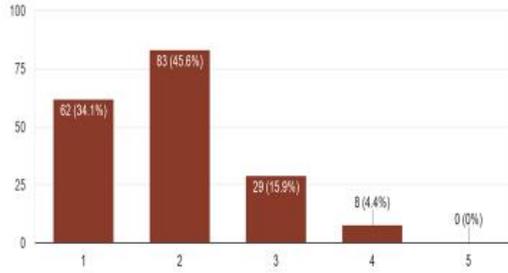
18 responses



## Part 3

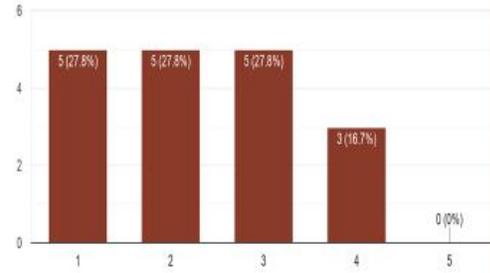
24- في مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي أفضل مناقشات مواقف تعليمية وحالات-  
فعلية من خبرات الأعضاء

182 responses



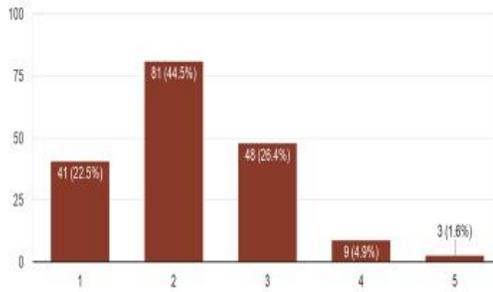
24- In TOSN I prefer the discussions about real situations from members' experiences.

18 responses



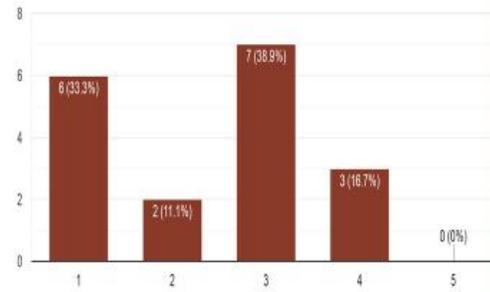
25- في مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي أشارك مواقف تعليمية حقيقية مرت بي-  
بغرض تقييم تصرفاتي وردود أفعالي في هذه المواقف

182 responses



25- In TOSN I can share a situation from my experiences to evaluate my action in it

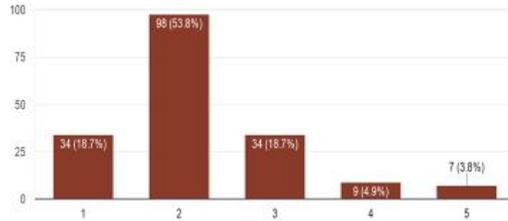
18 responses



## Part 4

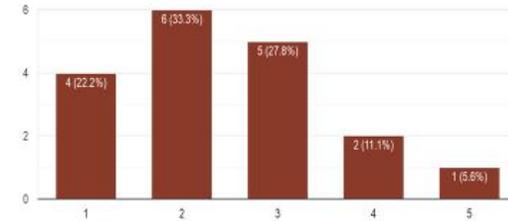
26- لقد تعلمت من خلال المشاركة في المجتمعات المهنية للمعلمين على شبكات التواصل الاجتماعي مهارات التواصل الاجتماعي الرقمي.

182 responses



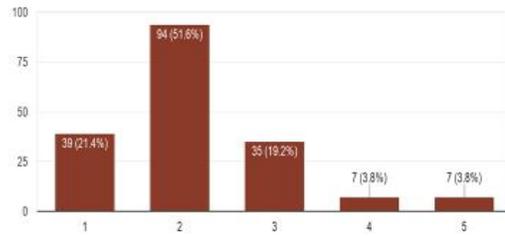
26- Involvement in TOSN taught me important digital communications skills.

18 responses



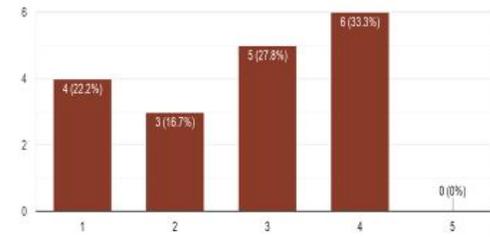
27- لقد تعلمت من خلال المشاركة في المجتمعات المهنية للمعلمين على شبكات التواصل الاجتماعي مهارات التواصل الاجتماعي الرقمي وسأنتقل هذه المهارات إلى طلابي.

182 responses



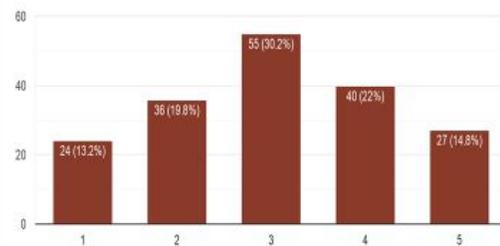
27- The digital communications skills which I gained in TOSN will be passed to my students.

18 responses



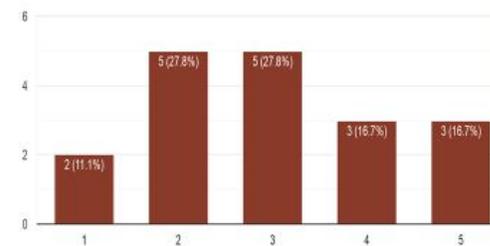
28- لا أنضم لمجتمعات التعلم المهنية للمعلمين على شبكات التواصل الاجتماعي التي تقوم على منصات إلكترونية لا أملك مهارات التعامل معها.

182 responses



28- I do not join the TOSN if I cannot deal with the technology tool in this network.

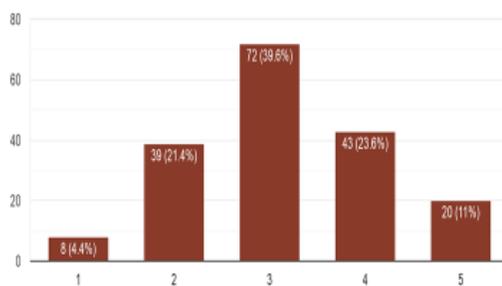
18 responses



## PART 5

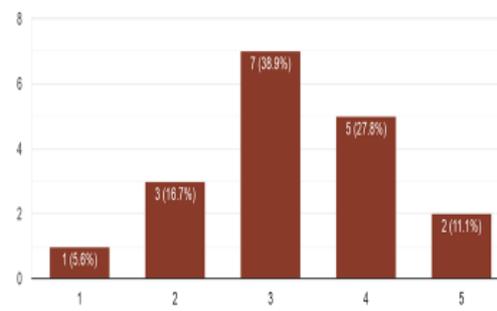
29- إن أغلب المشاركات التي أساهم بها في مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي منقولة

182 responses



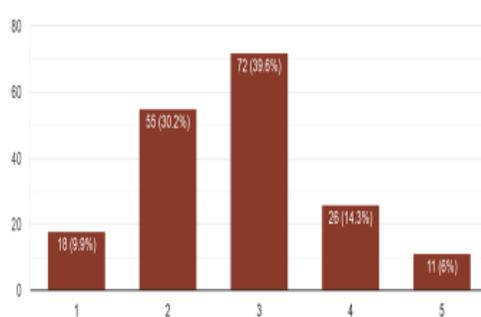
29- Most of the participation which I share in TOSN is copied.

18 responses



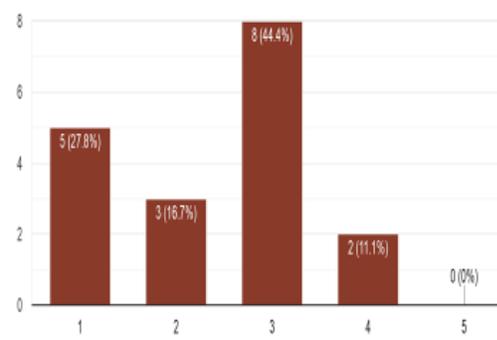
30- إن أغلب المشاركات التي أساهم بها في مجتمعات المعلمين المهنية على شبكات التواصل الاجتماعي قد تمّت بكتابتها وتصميمها بنفسي

182 responses



30- Most of the participation which I share in TOSN I created it.

18 responses



## Appendix B

Interviews

Dr. Heba:

1 - Nowadays the educational system is suffering from the lack of teachers training globally.

What is the reason for this issue?

I am not sure that this is a global issue. Actually, I see that many governments are investing in teacher training assuming that the more it trains teachers it will document better statistics in the thousands. What I see from my personal and professional perspective, is that governments should shift from the training model to a continuous professional development (CPD) model. With the later in mind comes a new approach with all its details. It will require a new mind-set and follow up system with monitoring and evaluation systems that are based on mentorship rather than inspectorship.

2 - What are the negative effects in not having well trained teachers?

Again, going to the other extreme of a CPD model will result in the absence of a teacher professional community where teachers will not be speaking the same language and therefore will have difficulty communicating ideas and pedagogical practices amongst themselves and their students. I would also imagine students being taught by different teachers with conflicting messages and pedagogies that would confuse them of which practice to utilise and when. Teacher self-efficacy might be affected as well as students' achievement levels and results.

3 - I assume that you are familiar with the formal social platforms where teachers join regarding professional development. How do comment in this respect?

Yes, there are various platforms. Some are official means for PD while other are more informal means. In Egypt, the use of Facebook and WhatsApp are becoming more and more common and easy to use. Their roles are shifting from social media to a place where ideas and links are shared. I personally understand that teachers are looking for user friendly platforms, but professional ones will always be structured in a better way providing different types of communication.

4 - Fast knowledge makes the teachers aware of the need for training and in this way, they join social networks such as Facebook, Twitter, etc. for experience exchange. Do you think these communities will fill the gap in teachers pedagogical training?

No. please see my response above

5 - You have a very good experience in teacher training for STEAM Education. I know that you have participated in "Edraak" the online platform for teachers' training. Regarding STEAM as a

new educational style, do you think teachers are still having lack of training? is it an obstacle in providing them with a proper training?

The online course can be perceived as an orientation or eyeopener. I would surely recommend to have follow-up sessions or visits that could complement what took place during the online course.

6 - Does online-based training offer a solution in STEAM Education?

As mentioned above it provides some level of detail to get teachers interested and aware of contemporary pedagogies. It depends on the structure and design of the MOOC or course and this in itself can bring about variations.

8 - Do you expect to find such effective activities for STEAM Education in the teachers' social networks Facebook. Twitter, etc.?

It depends on how the discussion is directed. Generally speaking, I think that courses which are structured directly to enhance teachers' professional development will be different than the other social network platforms.

9 - Are any skills used to deal with the social networks as a professional development tool?

I assume it would be related to discussion skills and knowledge management.

10 - What advice would you give the teachers who exchange their experience and discuss about STEAM Education through the social networks?

That it needs to go beyond just discussion to actual implementation of interdisciplinary design followed by feedback.

THANK YOU

## The Interview

In the beginning, we want to congratulate you on the new initiative Mohamed Bin Rashid smart learning portal and its impact in transforming the educational system in UAE to TECH-based learning. Our interview will be about the Social side in this portal which makes teacher able to join or create a group and add his Colleague, students, and parents in this group in order to share new information, instructions, educational content. This online social network as a learning community has many issues to examine (Knowledge movement between teachers, Trust issue, Digital communications skills, Case-method Learning, Social Network Administration).

- Social Network Administration

1 – Regarding giving a chance for the teacher to create or join a social network group, what is the goal of this option?

- Building teachers skills in their areas of specialties.
- Exchange knowledge share experiences and best practices between the teachers.

2 – Is there any structure for this social network? Is it observed?

There are many tools used, where in some it is observed by the principal and here I mean I am referring to the communities within one school and categorized by subjects.

Al Majlis, on the other hand, is another platform, yet it is more private and teachers can discuss issues freely with no restraints.

- (Digital communications skills)

1 – Is there a framework for the digital skills which teacher need to deal with this portal?

- There is a framework for teachers' digital competencies.

2 – How the teacher can pass these skills to his/her student?

- There are two frameworks for both teachers and students. By following the criteria set in each one of them, teachers can build not only their competencies but also help their students in leveraging their digital skills in the e-Maturity Model.

3 – Do you use analysis the social networks in order to develop it?

- (Trust issue)

1 – Do you think Trust aspect (trust in other teachers, trust in the content) will encourage the teacher to be more interactive in this social network?

- The main purpose of applying such an educational system is to make it secured.

2 – Do you deal with the internal conflict (In case) between teachers as a result of negative critics or something like that?

- Smart Learning does not work to that level since it is the area of the principal to deal with.

- (Knowledge movement)

1 – How you invest this social network for providing teacher by the new knowledge?

- There are number of channels for the sharing, one is inside the LMS where the group is created by default between the teachers of the same subject inside the school. The other one is via the EduShare, where teachers upload their work and best practices and receive comments and get points on the materials. The third platform is Al Majlis, where communities are created amongst teachers all over UAE

2 – Do you expect that this knowledge will enhance teachers’ performance within the classroom?

Surely it will since knowledge is being shared within a vast community. Hence, the rotation and variety of practices that tackles different areas of teaching and learning.

3 – Do you plan to achieve a specific knowledge by this social network such as 21st-century skills?

These types of platforms were initially introduced to raise those skills and competencies for both teachers and students.

4 – Do you offer any reward to the active teacher who creates and share a valuable knowledge?

Currently we use STAR feedback for evaluating the materials being uploaded by the teachers. Thus, when searching for a specific material, it is evaluated by number of teachers who used it and proved its beneficial inside the classroom.

- Case-method Learning

1 – On this social network, teachers can share stories from their professional experiences of situations that have been successfully managed or have been frustrating. In your opinion, how can these experiences be used?

In Smart majlis, teachers can create groups that are either private that needs permission or an open one. It is an open discussion area to exchange practices, problems and share solutions. Another example is yammer (like Facebook), where teachers send posts about each and everything of their concerns and get the assistant from anyone within the Moe.

Smart Majlis website:

[Smartmajlis.moe.gov.ae](http://Smartmajlis.moe.gov.ae)

مقابلة مع الدكتور / عاطف أبو حميد الشرمان  
أخصائي وباحث في تكنولوجيا التعليم في الجامعة الهاشمية

د. عاطف

بصفتك مدرس للسوشيال ميديا وبصفتك مدرب للمعلمين في بعض البرامج التدريبية مثل برنامج تصميم التعليم الرقمي يسعدني أن نستفيد من خبرة و علم سيادتكم في بعض النقاط التي تتعرض لها الدراسة "حركة المعرفة في المجتمعات الإلكترونية الرقمية للمعلمين (فيسبوك، تويتر، إنستغرام، واتس أب، يوتيوب وغير ذلك من المنصات الرقمية). وأود ان أقسم مقابلي معك لقسمين؛ الأول يتناول قضية تطوير المعلمين بشكل عام، أما القسم الثاني فيركز على قضايا السوشيال ميديا

أولاً: قضية التطوير المهني للمعلمين

تعاني أغلبية النظم التعليمية حول العالم من نقص فرص تدريب المعلمين وذكر تقرير الاتحاد الأوروبي أن نسبة المعلمين الذي يعترفون بأهمية التدريب المهني ويطالبون به 70% من عدد المعلمين في دول أوروبا (2014)، ما تعليقك على هذه القضية وما واقعها في إقليم الشرق الأوسط

أعتقد بأن المعلم يحتاج دائماً، كغيره، للانخراط في برامج التطوير المهني. فالمعلم يتعامل مع الكثير من المتغيرات التي تتطلب منه تطوير نفسه وباستمرار. والتكنولوجيا خير مثال على ذلك. فلا يفيد المعلم كثيراً أن يبقى في مكانه بدون تطوير وتدريب، فالأجيال تتغير والواقع يتغير. أما وجهة نظر المعلمين حيال ذلك فهي مرتبطة بواقعهم المهني. فلربما يكون المعلم مقتنعا بضرورة التدريب والتطوير المهني أو لا. إلا أن ارتباطات المعلم والعبء على كاهله قد يجعله يعزف عن هذه القضية لما تتطلب إليه من جهد إضافي ووقت وهذا يكون على حساب جدولته المزدحم أصلاً. والضغوط المضاعفة على المعلم في المنطقة، وليس أقلها الواقع الاقتصادي، يجعل المعلم منشغلاً عن التفكير في تطوير نفسه مهنياً وقد يرى أن لديه ما هو أهم من ذلك

يعقد الكثيرون من خبراء التربية أملاً كبيراً على التكنولوجيا لحل هذه المعضلة وتوفير فرص تنمية مهنية ذات كفاءة وجودة - للمعلمين فهل التجارب التي خاضتها بعض الأنظمة في هذا الصدد مباشرة بتحقيق هذه الآمال أم أن العوائق مازالت أكبر؟ أتوقع أن الخطاب قد تجاوز الحديث عن التكنولوجيا إن كانت فعالة أم لا إلى الحديث عن "كيف" من الممكن أن يتم الاستفادة من إمكانيات التكنولوجيا من أجل تحقيق أهداف التنمية المهنية. ولكن القضية الجوهرية هنا هي أن التكنولوجيا هي أداة وليست غاية وهي كغيرها من الأدوات الأخرى تساعدنا في تحقيق أهداف معينة ونجاح ذلك يعتمد بالأساس على الطريقة والعقلية التي تستخدم التكنولوجيا واليات الاستفادة منها. فالتكنولوجيا لديها الإمكانيات الكبيرة التي من الممكن أن تحسن من واقع التدريب "المهني وأن تفتح أبواباً جديدة في هذا المجال ولكن ذلك يعتمد على "كيف

حديثنا عن مجتمعات للممارسة أو للتعلم التي تنشأ على الشبكات الاجتماعية (فيسبوك - تويتر - يوتيوب - إلخ.) ينشئها أحد المعلمين بشكل تطوعي وينضم لها عدد كبير من المعلمين لتبادل الخبرات ومناقشة قضايا العمل؟ ما تقييمك لمثل هذه المجتمعات الرقمية؟ وما تصورك عن طبيعة وحجم المعرفة التي يمكن للمعلم اكتسابها من خلال هذه المنصات؟ هذه من الأبواب الغنية الثرية التي تفتحها التكنولوجيا في مجال التطوير المهني للمعلمين. فهي إمكانية فعالة جداً وتفتح فرصة نادرة للكثير من المعلمين للاستفادة من تجارب وخبرات زملائهم في الميدان من أماكن ودول مختلفة. وهذا الأمر لم يكن متاحاً قبل انتشار الأدوات الرقمية. وبالنسبة للمعرفة في هذا المجال فهي غنية ثرية وقادرة على الارتقاء بالمعلم مهنياً وبشكل كبير سواء من ناحية المعرفة المهنية أو طرق التدريس أو الوسائل وغيرها

ما عوامل نجاح أو فشل هذه المنصات في تقديم تنمية مهنية جيدة للمعلمين؟ -

مشكلة هذه المجتمعات الافتراضية التي تنشأ على الانترنت أنه من السهولة بمكان إنشاؤها، إلا أنه من الصعوبة بمكان استمرارها ومتابعتها. ولذلك، فالاستفادة من هذه المجتمعات الافتراضية لا يتحقق من الالتحاق بمثل هذه المجتمعات من قبل المعلمين فقط، ولكن من خلال ما يتم تبادله والانخراط فيه من قبل المعلم بما يعكس على أدائه هل المعرفة التي تعطى لطلاب صفك الرقمي قابلة للانتشار بين المعلمين على منصات التواصل الاجتماعي أم أن طبيعة - المعرفة تختلف بين المنصات الرسمية والمنصات غير الرسمية؟

أنا أجباً للمجموعات المغلقة في هذا المجال. فهذا يجعل إدارتها أكثر فاعلية وتجعلني أقدر على متابعتها وتوجيه النقاش فيها نحو قضية معينة. فالانفتاح التام في هذه المجموعات يكون على حساب التركيز والفائدة منها

ثانياً: استثمار السوشيال ميديا في التطوير المهني للمعلمين

برغم استحواد منصات التواصل الاجتماعي على نسبة كبيرة من سكان هذا الكوكب إلا أن البعض منهم يوظف هذه المنصات ويستفيد منها والبعض الآخر يعترف أنه صار فريسة هذه المنصات ويحاول الإقلاع عن إدمانها، هل هناك مهارات خاصة للتعامل مع المجتمعات الإلكترونية (فيسبوك، تويتر، إنستغرام، واتس أب، يوتيوب وغير ذلك من المنصات الرقمية)؟ هي مشكلة حقيقية. فالذين يقومون على هذه الشبكات يبذلون الكثير من الوقت والجهد بهدف إبقاء المتابعين لها وهذا يكون باللجوء إلى طرق ووسائل أقل ما يقال عنها أنها تعمل على إدمان الشخص عليها. فالشخص الذي لديه مشكلة في ضبط الذات ومرافقتها قد يقع فريسة سهلة لإدمان الانترنت. وهذا بحاجة إلى الكثير من التوعية والتركيز على الثقافة الرقمية التي تنبه

الأشخاص إلى ذلك. كما أننا بحاجة إلى توفير البديل المفيد للطلبة ليشغلوا أنفسهم عن إدمان الانترنت لأن علاج المدمن الحقيقي يكون مهبطاً دائماً عندما يعود المدمن إلى صحبته القديمة فلذلك لا بد من إيجاد البديل هل هناك أطر نظرية لهذه المهارات يمكن للفرد الاطلاع عليها أم أن عليه التعلم من خلال الممارسة وتمضية وقت في اكتشاف خصائص كل منصة؟

ليس من المنطق أن نطلب من الشخص أن يجرب المخدرات ليكتشف بنفسه ضررها ثم الإقلاع عنها لأن الإدمان حينها يحتاج إلى علاج. وهنا نشير إلى أن الدراسات الحديثة تشخص الشخص الذي يقضي أكثر من 5 ساعات يومياً على الانترنت بهذا الشكل على أنه "مدمن" وهذا يعني أنه بحاجة إلى علاج وليس من السهولة بمكان أن يقلع هو نفسه عن هذا السلوك. فلا بد من التوعية والتربية في هذا المجال والتركيز على مهارات ما وراء المعرفة والتفكير الناقد ومراقبة الذات هل الغرض من الانضمام لهذه المنصات يلعب دور في تحديد هذه المهارات؟ بمعنى أدق، هل لاستخدام هذه المنصات بغرض التنمية المهنية مهارات تختلف عن استخدامها بغرض التسويق، وعن استخدامها بغرض التواصل مع الأسرة والأصدقاء وعن استخدامها بغرض الترفيه وهكذا؟

بما أن الأشخاص الآن يقضون الكثير من الوقت على الانترنت، فإن تخصيص وقت للاستفادة من هذا الوقت من خلال الانخراط في مثل هذه المجموعات يعطي الوقت الذي يقضيه على الانترنت فائدة. فإن لم يستفد من هذا الوقت على الانترنت في التطوير المهني فإنه بالضرورة سيقتضية متصفحاً شبكات التواصل بدون فائدة للحديث عن المواطنة الرقمية هل مهارات التعامل مع منصات التواصل الاجتماعي التي يكتسبها المعلم هل هي قابلة للتمرير إلى الطلاب داخل الصفوف الدراسية؟

بالتأكيد. وهذا أمر ضروري للمعلم أن يأخذه بعين الاعتبار بحيث يعطي وقتاً وجهداً لتوعية الطلبة في مجال المواطنة الرقمية. وفاقداً الشيء لا يعطيه. فمن يتحلى بهذه السمة لا بد أن يمررها لطلبته بصفتك مدرس للمعلمين على منصات إلكترونية ولقد كنت أنا شخصياً طالب في صفك ودرستني مادة تصميم السيناريو - للتعليم الرقمي وأنت مقيم في الأردن وأنا أجلس خلف حاسوبي المحمول في الإمارات من خلال منصة تعلم إلكترونية في برنامج تدريبي معتمد من جامعة عريقة هي جامعة الأميرة سمية بنت الحسين، أريد منكم تقييماً لمزايا وعيوب هذا النمط الجديد من التنمية المهنية للمعلمين القائم على الانترنت

هي المزايا والعيوب نفسها للتعلم الإلكتروني. فهي توفر فرصة للتعلم عن بعد متخطية حواجز الزمان والمكان وتعمل على تخفيض التكلفة، كما أن التطور التكنولوجي حسن من إمكانيات هذا الطريقة في التدريب من خلال الصوت والصورة والفيديو المباشر وغير المباشر، إلا أنه في الوقت نفسه يبقى للتواصل المباشر بين المعلم والمتعلم نكهة وإضافات جوهرية على التعلم كما هو الحال في التعلم وجها لوجه

من خلال مراجعة الدراسات نجد أن انضمام المعلمين للمنصات الإلكترونية التي يحررها ويشرف عليها أفراد والموجهة - للتنمية المهنية أكبر من انضمامهم للمنصات الإلكترونية التي تقيمها المؤسسات لنفس الهدف. برأيك، ما السبب وراء ذلك؟ إن صحت هذه الدراسات فهي تعود للحرية والبعد عن الرسميات في بيئة التعلم. إلا أن مثال المنصات التعليمية (المووك) مثال على انخراط أعداد هائلة في التعلم على منصات تقوم عليها مؤسسات تعليمية وخاصة الجامعات من حول العالم.

كل الشكر والتحية لسيادتكم

## مقابلة مع مؤلف كتاب تربوي

### 1 – في البداية أخبرينا عن خبرتك في الميدان التربوي وقصة التحاقك بالمجال التدريسي؟

شغلت وظيفة معلمة 21 عاماً، حيث تم تعييني معلمة حاسوب بمدرسة دبا الثانوية بإمارة الفجيرة، ثم انتقلت إلى مدينة العين حيث عملت بمدرسة المعالي النموذجية 6 سنوات بمسمى معلمة تقنية المعلومات، ثم انتقلت لأعمل بمدرسة مكة للتعليم الأساسي حلقة 2 ، وقد درست بها 11 عاماً مادة تقنية المعلومات والاتصالات (ICT) ثم مادة التصميم والتكنولوجيا في العام الماضي.

ومما زاد خبرتي في المجال التدريسي مشاركتي وفوزي بمجموعة من جوائز التميز التربوي خلال مسيرتي التدريسية فقد حصلت على :

جائزة حمدان بن راشد للأداء التعليمي المتميز ، فئة المعلم المتميز ، الدورة السابعة.

جائزة المعلم النموذجي المتميز 2006-2007.

جائزة خليفة التربوية الدورة الثانية 2008-2009.

جائزة خليفة بن مترف للإبداع والتميز 2009-2010.

جائزة الشارقة للتفوق والتميز التربوي 2011-2012.

جائزة التميز الداخلية لمجلس أبوظبي للتعليم الدورة الثانية ، فئة المعلم المتميز 2016 .

كما حصلت على المركز المتميز على مستوى الوطن العربي من قبل شركة مايكروسوفت وذلك بتصميم برامج ألعاب تعليمية باستخدام برنامج الفيجوال بيسك ، في ملتقى المعلمين المبدعين العرب.

### 2 – هل تتذكرين أي زميل أو زميلة تعلمت منه شيئاً معرفياً في بداية عملك أفادك في حياتك المهنية؟

هناك قمم من الأشخاص، التقيت بهم فأفاضوا علي بعلمهم ورسموا آثارهم الإيجابية علي عملي، وأخص بالذكر مديرتي الأستاذة الفاضلة خولة السويدي والأستاذة جميلة محمد ، واللاتي شجعني واكتشفن مكامن الإبداع لدي، ثم التقيت بمن دربتني على مادة ICT الأستاذة بتينا شيرلي، حيث كانت مشرفة على تدريسي لمدة ثلاثة أعوام، وقد تلقيت على يديها تدريباً بما لا يقل عن 5 ساعات أسبوعياً، وقد حرصت على تطبيق كل ما أتعلمه عملياً.

### 3 – هل تجدين اختلافاً في برامج التطوير المهني الخاصة بالمعلمين بعد وسائل الاتصال الرقمية (فيسبوك، تويتر، لينكد إن، وواتساب)؟

نعم هناك اختلاف كبير فيعد أن دخلت وسائل الاتصال الرقمية في برامج التطوير المهني للمعلمين ، أحدثت تطوراً في أداء المعلمين من خلال تبادل الخبرات والآراء ونقلها هائلة في تسهيل وتيسير تبادل الأفكار والملفات والمناقشات التي ترفع من أداء العملية التعليمية والتربوية وتدفع من عجلة التقدم والتطور المستمر.

### 4 – هل من الممكن أن تصفي لنا مشاركاتك على هذه الوسائل الرقمية فيما يخص المشاركات المهنية في المجال التعليمي؟

لي مشاركات مهنية سابقة فيما يخص المجال التعليمي من خلال التواصل عبر مجموعات الواتساب لعدد كبير من المعلمات على مستوى الإمارة ، أو مجموعات الإيميل والون درايف ودروب بوكس، ولدي أنستجرام حديث وددت أن أضع فيه أفكار من خلاصة تجاربي أو ما وصلت إليه من خلال البحث والاطلاع.

وحيث أنني ابتعدت عن السلك التدريسي لظروفي، إلا أنني على اتصال بأخواتي المعلمات ممن يتبادلن الخبرات مع معلمين ومعلمات من دول مختلفة لا سيما دول الخليج العربي كالسعودية والبحرين ومناطق مختلفة من دولة الإمارات، حيث يتم خلالها التعرف على استراتيجيات جديدة في التدريس، وكذلك أفكار في التحفيز ، ومن أكثر وسائل الاتصال التي يتم تبادل الخبرات فيها الانستجرام والتلجرام وتويتر والواتساب والبريد الالكتروني.

#### **5 – وظف العديد من التربويين هذه المجتمعات الرقمية لاستعراض معارفهم ومشاركة أعمالهم وتحقيق المزيد من الشهرة والانتشار، كيف تجددين هذا الأمر؟**

نعم أجد هذه المشاركات من خلال هذه المجتمعات الرقمية ، فقد اطلعت على تجربة قبل ثلاث سنوات لمدرسة قامت مديرتها باستحداث منصة إلكترونية تجتمع فيها معلمات المدرسة في وقت محدد مرة في كل أسبوع، وتقوم في كل مرة باستضافة خبير تربوي تتناقش من خلاله المعلمات فيما يتعلق بالعملية التعليمية والتربوية ونقل الخبرة ، والإجابة على الاستفسارات والتساؤلات.

ومن خلال هذه المجتمعات يتم التغلب على مشكلات البعد وتحديد المكان ، وهي تجمع العدد الكبير في وقت واحد حيث ينتج عنها الفائدة المثلى.

#### **6 – لماذا اخترت الطريق الصعب؟ طريق النشر الورقي وصناعة النشر والتوزيع والبحث عن ناشر والأمور المالية المعقدة بينما كان يمكنك إنشاء موقع إلكتروني مهني بتكلفة أقل لنشر المحتوى المعرفي الذي تريد نشره؟**

نظراً لاهتمامي بتوثيق أعمالي وما أتعلمه وما أطبقه، وتنظيمه باستمرار، فإن أمر الكتاب كان خلاصة دورات وخبرات قدمتها، وما كان من الحاح جميع من تلقوا تلك الخبرات لإعطائهم تلك المادة ، الأمر الذي جعلني أفكر بعرضه ككتاب يضم تلك الأفكار برسوم واضحة وشرح مبسط، ليبقى كمرجع لكل مهتم. وحيث أنني عزمت على ترك مهنة التدريس فوددت أن أترك بصمة يستفيد من خلالها الآخرين.

ولم أتوقع أن طريق النشر الورقي معقد إلا بعد خوض التجربة، وبعدها وجدت أنه من الأسهل والأفضل إنشاء موقع إلكتروني مهني أو ما شابه لنقل الخبرات والأفكار المكتسبة والمتجددة للميدان.

#### **7 – هل تخوفت من سرقة أعمالك المعرفية إذا تم نشرها على موقع إلكتروني وضياع حقوق الملكية الفكرية؟**

ليس كل ما تم عرضه في الكتاب من تأليفي وأفكاري، وإنما كان خلاصة بحث وتدريب إضافة إلى أفكاري، ولكن فهم الأفكار بطريقتي الخاصة وعرضها بما رأيته من سهولة لتوصيل المعلومات من خلال الرسم والتصوير، وتلخيصها بنقاط وتسلسل هو ما تميزت به.

وأمّل في إخراج مادتي التالية عبر موقع إلكتروني خاص لتعم الفائدة أكثر، ولكن لا غنى لنا عن كتاب نتصفحه بين أيدينا.

## 8 – من واقع خبرتك، بم تنصحين الكتاب الذين يفكرون الآن في نشر معارفهم التعليمية؟

ثورة النشر الرقمية أصبحت تحتم على العالم أن يواكبها، ويرضي الجيل الجديد، وأرى أن النشر الإلكتروني والكتاب الإلكتروني لا بد منه ، وهو ليس رأياً واختياراً ولكنه أصبح واقعاً، ولا بد من رؤية الواقع واستشراف المستقبل.