**Abstract**

Drawing upon empirical data, this article explores the opportunities and obstacles of personal differentiated learning using Web 2.0 by Lebanese school principals. This article is part of a larger study that was carried out over a 2-year period and involved 649 principals (323 public: 326 private). This part of the larger study was addressed using quantitative surveying which investigated the degree school principals utilize social media for personal differentiated learning purposes; alongside the obstacles that confront them to grow professionally using its platforms. 5 Web 2.0 Apps were addressed in the study: Facebook, Twitter, Skype, YouTube, Email, and WhatsApp. Data was analyzed statistically using SPSS 21.0 for windows. Results indicated that principals were making good advantage of Emails and WhatsApp as means for personal differentiated learning. Limited advantage was made through Facebook and YouTube, and almost null advantage through Twitter and Skype. Obstacles are discussed and recommendations are offered.

**Keywords**

ICT, Web 2.0, Educational Technology, Social Media, School Leadership, School Improvement, Differentiated Leadership Development.

**I. Introduction**

Increasing globalization, communication and collaboration has ‘flattened’ the world, according to Friedman (2005). Through his book, The World Is Flat, Friedman (2005) raised awareness as to the intersection of technology, financial markets, and world trade. He suggested that:

> Several technological and political forces have converged, and that has produced a global, web-enabled playing field that allows for multiple forms of collaboration without regard to geography or distance - or soon, even language (Friedman, 2005, p. 1).

With new routes to communication and collaboration globally, a resulting organizational shift has been noted in a movement from “primarily vertical (command and control) value models, to an increasingly horizontal (connect and collaborate) models of operation” (Gilbert & Kelly, 2005, p.116). This has imposed a paradigm shift of post-modern thinking, leading to a change in the way things are done, and a change in the way the world is perceived (Aguyo, 2010). So knowledge is no more ‘some thing we have’ (a noun), but is rather ‘something we do’ (Gilbert & Kelly, 2005, p.120). Siemens (2006) puts it this way:

> “Knowledge has changed; from categorization and hierarchies, to networks and ecologies. This changes everything and emphasizes the need to change the spaces and structures of our organizations” (Siemens 2006, p. v).

This have paved towards the notion of ‘connectivism, which describes knowledge in the era we are witnessing as lying within flexible networks and learning ecologies (Siemens, 2006). Through connectivism, individuals learn through Personal Knowledge Networks (PKN), such as Web 2.0 (Chatti, 2010).

This study focused on the degree Lebanese school principals utilized Web 2.0 as tools for personal differentiated learning and professional growth. It also examined the obstacles inhibiting optimum usage of such tools.

**II. Purpose of the Study**

The purpose of this particular part of the larger study that was carried out over a 2-year period was to investigate the opportunities and obstacles of personal differentiated learning using Web 2.0 by Lebanese school principals. It focused on the most 5 popular Web 2.0 Apps (Facebook, Twitter, Skype, YouTube, Email, and WhatsApp), examining the degree Lebanese school principals used these tools as means for personal differentiated learning. Besides, the study examined the challenges and obstacles that confronted those principals upon making advantage of Web 2.0 for the aforementioned reason.

Particularly, this study was guided by the following research questions:

1. To what degree do school principals utilize Web 2.0 for personal learning purposes?
2. What are the obstacles that confront school principals while dealing with Web 2.0 for growing professionally?

**III. Importance of the Study**

Apart from administrative uses and classroom utilization of ICTs, these tools enable learners to learn anywhere and anytime, allowing them to create their own professional learning path (Xerri, 2013). Educators are thus have the opportunity to participate in a new era of professional development - an era of idea exchange that is accessible anywhere, anytime and that connects minds from across the globe (Carpenter & Krutka, 2014). These tools are real-time, cost-effective, and accessible around the world, and they are driven by practitioners, not just consultants (Fisher, 2013).

While many studies have emphasized the benefits of using ICT tools in education (Mingle & Adams, 2015); a small number has focused on Web 2.0, particularly in relation to the school principals’ knowledge and perceptions worldwide and particularly in Lebanon. The findings of this study would enrich both the international and local literature with knowledge about a topic of growing importance and great impact on life in general and learning in particular.

**IV. Review of Related Literature**

**A. Knowledge in a New Era**

“Knowledge and learning, once education’s domain, are now a key focus of business and government,” says Gilbert & Kelly (2005, p.112). Knowledge, which once served the aims of the economy, is becoming the economy itself (Jansen, 2017). In other words, what used to be the means has become the end. Gilbert & Kelly (2005) suggests that knowledge is no longer thought of...
as a ‘thing’, developed and stored in experts, but should rather
be seen as a form of ‘energy’. Knowledge is no more viewed as
something “produced in the minds of individuals but rather in the
interactions between people’’ (Castells 2000, as cited in Gilbert &
Kelly, 2005, p. 118). In other words, knowledge has changed from
something we used to normally ‘have’, to something we now ‘do’. Parallel
to this Siemens (2006) explicitly states that:

“Knowledge has changed; from categorization and hierarchies, to
networks and ecologies. This changes everything and emphasizes
the need to change the spaces and structures of our organizations”
(Siemens 2006, p. v).

In this context, researchers suggest that the future of learning lies in
flexible networks that allow learning to happen anytime, anywhere
and freed from shackles of its methods of delivery (Gilbert &
Kelly, 2005; Siemens, 2006; Park, Nam & Cha, 2012). Siemens
(2006) describes it with the term ‘learning ecologies’ which paves
the way to networked learning that can take the form of online
learning, face-to-face learning or mobile learning. The main
feature of this kind of learning is that it survives in and thrives
in complex environments and times of rapid change (Park, Nam
& Cha, 2012).

B. Web 2.0 and Learning Opportunities
Selwyn (2009) suggests that social networking may “benefit
learners by allowing them to enter new networks of collaborative
learning, based around interests and affinities not catered for in
their immediate educational environment.” (p. 368). Thus, social
networking sites may provide a forum for extending the traditional
classroom and enabling users to join groups that match individual
educational interests. In other words, social networking has the
potential to serve as an effective tool for differentiating instruction
(UNESCO, 2002; Haddad, 2007; Clarke, 2009; Pascu, 2009;
Dzidonu, 2010; Hennessey, 2010; Betz, 2011).

Social media and Web 2.0 Apps are becoming widely popular
among both youth and adults (Pempek, Yermolayeva, & Calvert,
2008; cited in Sponcil & Gitimu, 2013). This is because social
media networks seem to be straightforward and available at low
or no cost (Sponsil & Gitimu, 2013).

On the other hand, several researchers remain wary as to the
positive potential of social media to enhance quality of learning.
For example, Brabazon (2007) claims that social networking
sites may disengage students from learning traditional skills
and literacies; leading them to learn less and at a lower quality.
Sickler (2007) warns Web 2.0 Apps may negatively impact or even
destroy the traditional roles of the teacher and learner. As such
the learning process in general, and its quality in particular may
become endangered (Sickler, 2007).

C. Selected Web 2.0 Apps as Learning Tools

1. Facebook
Although Facebook has been mainly used word wide to
communicate with people, there are several educational usages for
Facebook. These include Facebook as: (1) a resources foundation;
(2) a platform for projects and assignments; (3) a platform for
sharing resources; (4) a tool for facilitating collaboration and
discussion; (5) means for classroom management and organization;
and (6) Facebook as a tool that supports variety of application that
can aid in conducting research through surveying, conducting tests,
etc… (Britland, 2012; Harper, 2013; Nielsen, 2013; Sheninger et
al., 2011; Steiner, 2013; Williamson 2012).

Yet there have been critiques as well to Facebook as a learning tool
by a number of researchers who argued that students’ main motive
us basically socialization and connectivity rather than learning
through (Bosch, 2009; Madge et al., 2009; Mazman & Uselue,
2010; Ophus & Abbitt, 2009; Roblyer et al., 2010; Subrahmanyam
et al., 2008; Wise et al., 2011).

2. Twitter
Twitter has been considered as an effective tool in educational
settings by several researchers (Sheninger et al., 2011; Williamson,
as follows:
• It allows sharing the best practices of teachers with each
other.
• It is very useful to get helpful information.
• It can serve both as a means of analysis and an object of
analysis.
• It connects people that one would not have met otherwise.
• It keeps track of a conversation learners carry on a particular
topic.
• It’s a good way of making a quick announcement.
• It is being limited to just 140 characters, so it really focuses
the attention.
• It has developed its own sort of discursive grammar set,
requiring a great deal of summarizing (synthesizing).
• It may be useful for professional development and building
a true educational community.
• Teachers make themselves available through it.
• It helps teachers connect their students to the real world.
• It gives all learners a voice (quieter learners’ voice can be
heard).
• It provides age-appropriate learning environments and
communities.
• It serves as a tool that supports reflection.
• It is purposeful, curriculum-centered but not curriculum-
bound.
• It can be used by teachers to post lecture notes.
• It acts as a research platform through its hashtags which allows
a user to collect all tweets that have the same hashtag.

Like Facebook and other social media tools, there are limitations
pertaining to their use in education. These include distraction
to students during lessons; using Twitter in the classroom for
personal purposes and interactions during classroom learning time;
detracting students from human interaction; and cyberbullying
(van Treeck & Ebner).

3. YouTube
YouTube serves as a hub for video sharing and virtual entertainment
by its power to transform a potentially dull or complicated subject
matter into an overall exciting and engaging e-Learning experience
(Losh, 2014). Research indicates several usages for YouTube in
education, including:
• Developing playlists by educators that aims at exploring a
specific topic.
• Developing webinars by educators that learners can use as
reference tools.
• Allowing learners to create their own videos to enhance
knowledge retention
• Improving comprehension rates by visually illustrating a complex concept.
• Using privacy settings with learners groups to share videos only with group members.
• Encouraging collaboration through group ‘YouTube projects’.
• Creating annotations and links to videos to provide additional resources.
• Allowing designing self-study courses that combine usage of YouTube and Google Form (Nielsen, 2013).

While YouTube possess strong features that could make it potentially an effective learning tool, it does have some limitations and challenges. For example, searching for appropriate or content-specific videos may prove challenging and time consuming in practice (Raikos, & Waidyasekara, 2014). Another limitation pertains to accuracy and credibility of the videos that are posted on its website (Williamson, 2012). A third limitation has to do with buffering time needed for a video to download, leading to loss of learning time in some cases (Raikos, & Waidyasekara, 2014). A final limitation relates to computer protection against Spyware and viruses, as studies have shown that computer hackers often use online video sources to upload Spyware and viruses (Raikos, & Waidyasekara, 2014; Williamson, 2012).

4. Emails
Email or more accurately Electronic mail, is an information and communications technology that was first used in 1993 (Ferriter, 2011). An email communicates a digital message over the Internet using software platforms such as Gmail, Hotmail, Yahoo, Outlook, etc. (Frzana et al., 2010). Steiner (2013) suggests that emails are easiest tools for least expert users as they require only the construction of a list to which learning material can be sent at the prick of a finger.

Smith, Whiteley and Smith (1999), over the course of three studies, conclude that email is potentially a strong tool that supports or replaces course delivery. Additionally, Debard and Guidara (1999) claim that emails could lead to more student interaction; and deeper, more active, and more engaged learning. Likewise, You and Yu (2000) and Vonderwell (2003) argue that Email can be a wonderful tool for delivering feedback to learners. Once a basic understanding of feedback’s role in learning has been established, one can begin to focus on how best to take advantage of the pedagogical functions of the communication medium. Finally, some researchers suggest that emails motivate learners (Nielsen, 2013), encourages authentic communication (McCarthy, 2010), and creates new learning opportunities (Masseni, 2014).

However, despite advantages of Email as a learning tool, there are challenges that confront using it. First, Willems, & Bateman (2011) mention drawbacks such as user isolation, user depression and loneliness, and the potential lack of a learning community. Bloch (2002) makes a similar point stating that emails could create misunderstandings and conflicts in the absence of face-to-face context. Besides, unlike phone calls, emails are a written record, so they tend to hold its author accountable (Bloch, 2002).

5. WhatsApp
The literature of WhatsApp is fairly a small one as the application is relatively new (Cohavi, 2013). This literature mentions the following about WhatsApp:
• It possesses the potential for learning enhancement (Smit & Goede, 2012);
• It possesses the potential for learners to be active in their studies (Cifuentes & Lents, 2011);
• It facilitates informal communication between learners (Cifuentes & Lents, 2011; Smit & Goede, 2012);
• It allows for in-person interaction between students and faculty related to course content and personal issues (Cifuentes & Lents, 2011);
• It promotes sense of belonging and community (Smit & Goede, 2012; Cohavi, 2013);
• It supports the breakdown of teacher-student social barriers (Cohavi, 2013); and
• Students tend to take assignments more seriously when they are public in order to impress their peers (Smit & Goede, 2012).

V. Methodology
As stated earlier, this study is part of a larger study that was carried out over a 2-year period that employed mixed methods. Data used to respond to the research questions of this particular study was derived through quantitative surveying.

A. The Sample
This study involved 323 public school (N₁ = 323) principals along with 326 private school principals (N₂ = 326). Thus the total sample was composed of 648 school principals (N = 649). 374 public school principals from the 6 governorates of Lebanon were sent the questionnaire with a cover letter specifying the purpose of the study, guarantying anonymity and assuring the importance of the study and hence the value of their contribution. This was done after getting the permission of the Dean of the Faculty of Education who appreciated the purpose of the study and welcomed the data collection process.

The addressed public school principals were involved in an in-service training at the Faculty of Education of the Lebanese University and affiliated training centers in the various governorates. 361 public school principals reflected interest in participating in the study. Out of the 361 questionnaires, only 323 questionnaires were usable as many were incomplete.

The decision to invite this particular group of public school principals to participate in the study springs out of the feasibility of administering the questionnaire to them altogether and on spot. The researcher has huge experience with public schools where in earlier studies conducted by him, the response rate was 20 % only; making the non-response bias 80% (Creswell, 2014). With the given scenario, the response rate was 96.5%, rendering the non-response bias into only 3.47% only. Considering the incomplete questionnaires, the partial response rate turns into 86.3% which is still quite a high rate. The literature indicates a response rate of 70% is considered a high response rate (Creswell, 2012; 2013; 2014).

Another reason behind inviting this group of public school principals to participate in the study was the knowledge of the researcher about its composition. In fact, the sample was relatively a representative sample of the distribution of public school principals across governorates. In fact, while public schools principals of Beirut are 4.7% of the total population, the sample was 5.2% public principals from Beirut. Similarly for Mount
lebanon (21.8% against 20.4%), north Lebanon (33.5% against 42.7%), south Lebanon (11.9% against 9.6%), Bekaa (17.8% against 12.6%) and Nabateyeh (10.2% against 9.2%).

As for the private schools, the researcher obtained data regarding the distribution of private schools over the 6 Lebanese governorates from the National Center for Research and Development (2014). Using this data, the questionnaire was mailed to randomly selected principals according to numbers that closely approximate the composition of the overall population of private school principals (stratified sample). Along with the questionnaire, a cover letter was sent, specifying the purpose of the study, guaranteeing anonymity and assuring on the importance of the study and hence their contribution. Should they feel interested in completing the questionnaire, principals were requested to mail it back to the researcher or even call the researcher who would facilitate manual pick up from the school in case mailing was a burden. F axing the completed questionnaire was a third option.

While private school principals of Beirut are 8.9% of the total population, the sample was 11.3% public principals from Beirut. Similarly for Mount Lebanon (43.4% against 46%), north Lebanon (19.12% against 18.4%), south Lebanon (8.0% against 7.0%), Bekaa (13.8% against 10.12%) and Nabateyeh (6.6% against 7.0%).

B. The Research Instrument
A survey was developed based on the conceptual model arrived at, and based on the extensive review of the literature of ICT. Using ICTs for four types of knowledge were addressed: (a) knowledge sharing; (b) knowledge building; (c) knowledge discovery; and (d) knowledge collection. This was done across the most prominently utilized Web 2.0 Apps that the literature pointed to: (a) Facebook; (b) Email; (c) YouTube; (d) WhatsApp; (e) Twitter and (f) Skype.

The survey consisted of five sections. The first section aimed at collecting demographic data about participants. The information requested included: type of school (private/public), nature of schools (males/females/mixed), school levels (kindergarten/primary/middle/secondary), gender, principal of education background and certification, age, teaching and administrative experience. In the second section, participants were requested to provide their evaluative opinion pertaining to the degree they thought ICTs were valid resources for professional development and growth. Options were provided in the form of a Likert scale consisting of four points: (4) Strongly Agree; (3) Agree; (2) Disagree; and (1) Strongly Disagree. This section also included an open-ended question requesting participants to suggest the most significant strength they envisioned for the utilization of social media for the purpose of personalized learning.

In the third section, participants were requested to respond on items to check if they possessed computers/laptops/smart phones/tablets, etc… and whether those had internet access. In the fourth section, data was collected pertaining to whether schools and/or principals had pages/accounts on the six types of social media mentioned earlier. This is besides asking participants to describe their activity while utilizing such tools in terms of downloading or uploading. Participants were also asked to rate their usage of the six social media using a 10 points maximum score. For every social media they did not score with a zero, they were requested to respond to a set of questions that explored how, when and why they were using it.

Finally, in section five, participants responded to a four-points Likert scale (4: Strongly Agree; 3: Agree; 2: Disagree; 1: Strongly Disagree) where they provided their opinion regarding the obstacles that confronted their utilization of ICTs for the purpose of personalized learning. The survey concluded with an item inviting principals to participate in a case study in which they would use their smart phones in order to learn about leadership matters. In case of interest, they were requested to write down their names and contact information.

C. Analysis of Data
Data derived from questionnaires were analyzed using the Statistical Package for Social Sciences SPSS 21.0 for windows. Descriptive statistics were used to describe and summarize the properties of the mass of data collected from the respondents. Percentages were calculated per each item of the survey instrument.

VI. Results
A. Research Question (1): To what degree do school principals utilize Web 2.0 for personal learning purposes?

1. Communicating with Special Education Experts
Social media tools were examined to check if they help principals in communicating with special education experts or not.

As fig. 1 shows, almost all (98.4%) participant public school principals (SD=48.9%, D=49.5%) disagree that the use of social media tools would help in communicating with special education experts and only 1.2% (A=0.6% and SA=0.9%) agree. On the other side 87.7% (SD=44.8%, D=42.9%) of participant private school principals disagree on the same item; versus 12.3% (A=7.1%, SA=5.2%) of the same principals’ group who agree.

Fig. 1: Classification of the Sample by Principals’ Commucation With Special Education Experts

2. Membership in Specialized Professional Organizations
The usage of social media tools to seek opportunities for school principals to join specific professional institutions was investigated. Fig. 2 represents the results.
Fig. 2: Classification of the Sample by Principals’ Belonging to Specialized Professional Institutions.

Fig. 2 shows that 80.2% (SD=61%, D=19.2%) of participant public schools principals disagree that social media would help them getting access to specialized educational institutions versus 19.8% (A=14.2%, SA=5.6%) that agree. On the other hand, 76.1% (SD=45.1%, D=31%) of participant private schools principals disagree on this; whereas 24% (A=12.3%, SA=11.7%) of the same principals category that agree.

3. Following up with Educational Conferences

The use of different social media as tools that can offer school principals access to various educational conferences taking place worldwide was examined.

Fig. 3: Classification of the Sample by Principals’ Follow up to Education Conferences.

It was evident that 95% (SD=58.2%, D=38%) of participant public schools principals disagree that usage of social media tools help them to follow up educational conferences; whereas only 80% (SD=42%, D=38%) of participant private schools principals disagree on this. On the “agree” side, 5% (A=2.2%, SA=2.8%) of participant public schools were positive on this versus 20% (A=12%, SA=8%) in private schools that agree.

4. Self Professional Development and Growth

The usage of social media was examined against self professional development and growth of principals in public and private schools. Results are presented in fig. 4.

Fig. 4: Classification of the Sample by Principals’ Professional Development and Growth

As per fig. 4, 91.4% (SD=47.7%, D=43.7%) of participant public schools principals disagree that social media tools support self professional development and growth; versus 8.7% (A=5.9%, SA=2.8%) of the same sample category that agree. On the same page, results were much better among participant private school principals as 76.8% (SD=41.75%, D=35.05%) disagree on the same item; whereas 23.3% (A=14.7%, SA=8.6%) of the same sample category agree.

5. Boosting Leadership Skills

Data collected investigated principals’ views on the role of social media tools in boosting their: (1) Decision making skills; (2) Problems solving skills; (3) Communication skills; (4) Language skills; and (5) Principals’ skills to influence large number of school’s personnel.

Fig. 5: Classification of the Sample by Boosting Different Principals’ skills

Investigating “decision making skills” of schools principals, data were distributed approximately equally between partipant principals from public and private schools. In terms of “problems solving skills” item, 86% (SD=46.4%, A=37.8%) of participant public schools principals disagree that social media tools usage boost their problems solving skills; whereas only 15.8% (A=11.8%, SA=4%) of the same principals sample category agree on the same item. On the opposite side, results were little better at the participant private schools principals level. 78.8% (SD=42.9%, D=35.9%) disagree on the same item versus 21.1% (A=15%, SA=6.1%) that agree.
With regard to “communication skills” item, 95.4% (SD = 47.7%, D = 47.7%) of participant public schools principals disagree that the usage of social media tools boosts principals’ communication skills; vis a vis to 4.7% (A = 2.8%, SA = 1.9%) that agree. On the other hand, results were much better in the case of participant private schools principals as 83.1% (SD = 41.7%, D = 41.4%) disagree compared to 16.8% (A = 10.4%, SA = 6.4%) that agree on the same item.

Within the same context, 81.4% (SD = 41.5%, D=39.9%) of participant public schools disagree that usage of social media tools boost their language skills; whereas 18.6% (A = 13.6%, SA = 5%) agree. On the private schools side, 73.6% (SD = 37.1%, D=36.5%) of principals disagree; versus only 26.4%(A=18.7%, SA=7.7%) that agree.

Finally, 83.9%(SD=43%,D=40.9%) of participant public schools principals disagree that the usage of social media tools boost their skills to influence large number of school’s personnel whereas only 16.1%(A=11.8%,SA=4.3%) agree. As for private schools, 74.5% (SD=37.7%,D=36.8%) of principals disagree on the same item; versus 25.5% (A=16.9%,SA=8.6%) of them who agree.

6. Communicating with Other School Principals to Share Expertise

How much the usage of social media tools facilitates the communication between school principals for the purpose of exchanging professional expertise was investigated. Results are presented in fig. 6.

Fig. 6 shows that 95.7%(SD=52%,D=43.7%) disagree that the use of social media tools by participant public schools principals would help them exchange expertise with other principals; whereas 4.4%(A=2.5%,SA=1.9%) of the same principals category agree.

Navigating the same item, fig. 6 shows that 90.4% (SD = 48.5%, D = 41.7%) of participant private schools principals disagree versus 9.8%(A=5.5%,SA=4.3%) of them that agree.

7. Saving Time and Cost in Running Schools

This item explores the opinion of school principals about the usage of different social media tools to save time and cost to run their schools. Figure 8 presents results obtained.

Fig. 7: Classification of the Sample by Principals’ Time and Cost Saving to Run School

Fig. 7 shows that 89.8% (SD=47.4%, D=42.4%) of participant public school principals disagree that the usage of different social media tools would help them save time and cost to run their schools; whereas 10.2%(A=7.4%, SA=2.8%) of them agree. Within the same perspective, results were slightly better at the level of private schools as 83.1%(SD=44.8%, D=38.3%) of participant private schools principals disagree on this versus 16.8%(A=10.7%, SA=6.1%) of them that agree.

8. Boosting Motivation for Continuous Learning

This item investigates if the usage of different social media tools by school principals motivates his(er) continuous learning process. Fig. 8 presents results.

Fig. 8. Classification of the Sample by Principals’ Motivation for Continuous Learning

The majority of participant public school principals 94.2%(SD=50.2%,D=44.2%) disagree that social media tools usage motivates them to pursue continuous learning; whereas only 5.9%(A=3.4%,SA=2.5%) of the same sample agree. Looking at the opinion of participant private schools principals about the same item, data showed that 85.8%(SD=45.7%,D=39.9%) of those principals disagree versus 14.4%(A=6.7%;SA=7.7%) of them that agree. This might be due to the fact that most of the principals surveyed in this research believe that continuous learning is a result of real training and it may not be achieved through the use of the social media tools.

9. Accessing Educational Research

Investigating if using social media tools help principals in preparing or reading education researches was examined via this item.
Fig. 9: Classification of the Sample by Principals’ Preparation or Reading Education Research

Fig. 9 shows that 93.5% (SD=56.7%, D=36.8%) of participant public school principals disagree that the use of social media tools improves their preparation and reading of education researches; whereas 6.5% (A=4%, SA=2.5%) of them agree. On the private side, results were not much better as 81% (SD=50%, D=31%) of participant private school principals disagree on this versus 19% (A=11%, SA=8%) of them that agree.

10. Impacting Principal’s Leadership Skills
The effect of social media tools usage on improving and developing principal’s leadership skills was investigated by this item.

Fig. 10: Classification of the Sample by Principals’ Improvement and Development of Leadership Skills

89.1% (SD=49.5%, D=39.6%) of participant public schools principals disagree that the usage of social media tools improved and developed their leadership skills; whereas 10.8% (A=7.7%, SA=3.1%) agree. On the other side, 74.9% (SD=35.9%, D=39%) of participant private schools principals disagree; vis a vis of 25.2% (A=13.5%, SA=11.7%) of them that agree.

This might be due to the fact that most of the principals surveyed in this study do believe that the improvement and development of leadership skills rely on face-to-face professional development.

11. Updating Principal’s Educational Information
Usage of social media tools was tested against continuous update of principals’ educational information. Results are presented in fig. 11.

Fig. 11: Classification of the Sample by Principals’ Continuous Update of Educational Information

The majority of both participants: public and private school principals disagree that the usage of social media tools updated their educational information continuously 94.5% (SD=50.5%, D=44%) in public and 85.9% (SD=46.3%, D=39.6%) in private. On the same page, 5.6% (A=2.8%, SA=2.8%) of participant public schools principals and 14.2% (A=7.1%, SA=7.1%) of participant private schools principals agree on the same item.

12. Principal Acquisition of New Skills
This item examined if using social media tools help principals in acquiring new skills. Fig. 12 shows that 96.6% (SD=52.6%, D=44%) of participant public schools principals disagree that usage of social media tools helped them in acquiring new skills; versus 3.4% (A=1.9%, SA=1.5%) of them that agree. On the other side, 86.2% (SD=46.6%, D=39.6%) of participant private schools principals disagree on the same item; versus only 13.8% (A=7.4%, SA=6.4%) that agree.

This also might be due to the fact that principals surveyed in this sample limit their social media tools to communication and entertainment.

Fig. 12: Classification of the Sample by Principals’ Acquisition of New Skills

13. Principals’ Initiatives
This item investigates if the usage of social media tools triggers leadership initiative spirit of school principals. Fig. 13 shows that 88.6% (SD=53.6%, D=35%) of participant public schools principals disagree that use of social media tools triggered their leadership initiative spirit; versus only 11.5% (A=8.4%, SA=3.1%) that agree. On the private side, 81.6% (SD=47.9%, D=33.7%) of schools principals disagree on the same item; compared to 18.4% (A=11%, SA=7.4%) that agree.
14. Professional Development of School Principals

Professional development of school principals as a function of using social media tools was investigated in relation to:
1. Time that school principals spent on social media;
2. Personal needs of school principals;
3. Capabilities of school principals; and
4. Possibly lower costs.

Fig. 14 shows that 89.5% (SD=61%, D=28.5%) of participant public schools principals disagree that using social media tools for professional development depends on principal’s time available; versus 10.5% (A=6.5%, SA=4%) of the same principal’s category that agree. Within the same context and under the same conditions, 83.1% (SD=54.3%, D=28.8%) of private schools principals disagree on this item; versus 16.8% (A=10.1%, SA=6.7%) of the same category that agree.

Data showed that 85.2%(SD=59.8%,D=25.4%) of participant public schools principals disagree that using social media tools for professional development of school principals relies on their personal needs while only 14.9% (A=9.9%, SA=5%) agree. Compared to private schools, results were little better as 77% (SD=56.4%, D=20.6%) of participant private schools principals disagree; as opposed to 23.1% (A=16%, SA=7.1%) that agree. This might be due to the fact that principals surveyed in this sample believe that professional development has nothing to do with availability of time but it is more a matter policies and willingness.

Moving to check if using social media tools for professional development of schools principals was viewed to depend on their capabilities, figure 4.26 showed that 90.1% (SD=61.3%,D=28.8%) of participant public schools principals disagree on this; versus 9.9% (A=6.5%, SA=3.4%) who agree. On the private level side, 82.2% (SD=56.7%, D=25.5%) of schools principals disagree; vis a vis 18.8% (A=10.7%, SA=7.1%) that agree.

Finally, testing if using social media tools was viewed as mean allowing for professional development of schools principals at lower costs, showed that 86.1% (SD=55.4%,D=30.7%) of participant public schools principals disagree; versus 13.9% (A=9.9%,SA=4%) that agree. On the other hand, 76.7%(SD=49.1%,D=27.6%) of participant private school principals disagree on this item; compared to 23.3% (A=17.2%,SA=6.1%) that agree.
Principals from both public and private schools were making relatively good advantage of Emails and WhatsApp as means for personal differentiated learning. In fact, they were networking with peers to share resources; communicating with educational experts; and participate in distance learning via emails. As for WhatsApp, the main function was mainly sharing resources. With slight difference in percentages; Emails and WhatsApp have topped the social media list investigated in this study in terms of securing space for personalized differentiated learning with participant number approaching half the sample investigated.

On the other hand, private school principals seemed to be making slightly more advantage of Facebook than their counter parts in public schools in terms of personalized differentiated professional growth. Principals were humbly involved in searching for leadership resources; sharing leadership resources with other principals; consulting educational experts; browsing e-books; participating in educational management expert groups; collecting data via surveys; and accessing educational researches. While the percentage of school principals involved in such happenings was relatively low, these events did exist.

Very limited use of YouTube has been noted by principals and was related mainly to downloading videos not necessary related to leadership matters. This applies to both private and public sectors, with private principals doing very slightly more than their public counterparts.

As for the rest social media tools, a limited use of Skype noted by principals has been noted. Principals have been utilizing it for the purpose of communicating with educational experts or to carry out distance learning. Again, private principals seemed to be slightly more involved in these than their public counterparts. Twitter was almost not being used by both public and private principals for personalized differentiated learning purposes.

As for the obstacles confronting principals’ usage of Web 2.0 for personal learning and differentiated professional growth; the lack of time topped the list, and the lack of devices (computer, smart phones, etc..) came at the bottom of the list. This applies to both public and private school principals. However, in between the two, some items were ranked high by school principals.

First, principals considered the lack of training on using such tools to be an obstacle. Issues that relate were also ranked high such as: (1) the language barrier where English is mostly used; (2) the lack of trust they bear towards the credibility of sources and how to decide if they were supposed to trust such sources; (3) the lack of advanced IT skills which enable them to carry out operations promptly and efficiently; and (4) the lack of privacy and hence their contributions on Web 2.0 would become published and open for any user. Interestingly, principals whether public or private, believed that the lack of culture that values online and distance learning, is in itself an issue that refrains them from using such tools. Finally, close to the bottom of the list came issues of financial cost, and internet speed.

VIII. Limitations of the Study
This study, as described earlier, is part of large scale study aimed at investigating the power of Web 2.0 as learning tools for school leadership. This article addressed only two research questions which were addressed using quantitative surveying only. Qualitative data would enrich the study with more in depth information and knowledge.

IX. Recommendations
This study has shown that Web 2.0 was being used by principals for socialization and communication purposes mainly. Web 2.0 was nearly unused for learning and personalized differentiated professional growth by school principals. Because Web 2.0 Apps are available and known to school principals, it is wise to focus professional development efforts on maximizing advantage from such tools.

References
Bosch, T. E. (2009). Using online social networking for teaching...


Cohavi, A. (2013). How did Whatsapp become the strongest social network. Available at: http://www.calcalist.co.il/local/articles/0, 7340,


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