

## Social media for learning: perceptions and behaviors

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### ABSTRACT

Since the outbreak of the COVID-19 pandemic, there has been a particular interest in integrating social media as an educational tool to support the distance learning process. The main problem with this study is the way students invest in networking opportunities for learning. Special emphasis is placed on the Everyday Informal Learning. An electronic questionnaire was distributed to 284 students registered at the University of Sharjah and King Saud University. The results indicate that the participants' extensive use of social media pushes them to easily experience Everyday Informal Learning; The sample appreciates the role of social media in facilitating communication and interaction among colleagues, and acknowledges its usefulness despite some perceived limitations such as the occasional lack of credibility and the ease of switching from educational to personal use; These results are in line with the concept of Online Cooperative Learning Theory as it confirms that the best way to learn through these networks is through collective participation methods. Given these results, the authors consider the idea of including social media as a Formal tool for Learning in educational institutions has become very suggestive, especially in this era in which the efficiency of online space has been demonstrated to preserve education in times of epidemics. Besides, the cost of integrating some advanced educational platforms like Learning Management Systems in some countries in the world makes social networks a better alternative; some countries like Bulgaria have turned to learning via social media during times of quarantine due to the Coronavirus. Therefore, the authors recommend that more research should be done on social media as Formal Learning tools to ask about their suitability for the courses and programs offered by universities in the world, in various disciplines.

**Keywords:** Informal learning, Social networks, Cooperative learning, Distance learning, Education

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## 1. Introduction

There has always been a special interest in integrating social media (SM) into online learning operations to sustain the distance learning process [1]. This interest has been solidified since the outbreak of the COVID-19 pandemic, as most educational institutions in the world have moved to distance e-learning to provide lecture and sustain its teaching operations during the quarantine period. Despite the freshness of calls to integrate SM into formal education, the use of SM in learning has coincided with the spread of networks, especially with regard to informal learning, which enhances the cultural and cognitive inventory of individuals based on the user's desire to search for information or verify its authenticity. This study aims to monitor the perceptions of two samples of Gulf students and their behaviors regarding SM as a premise for intentional everyday informal learning. In fact, *Learning* refers to the process of acquiring new understanding, knowledge, behaviors, skills, values, attitudes, and preferences [2]; It is defined by the Cambridge Dictionary as the procedure of obtaining an understanding of something through its study or by experience. Although it was considered essential to the success of individuals, especially in today's life, the debate about finding a unified and precise definition for the learning process is still ongoing as no consensus has been reached so far, especially with the complexity of its types and their overlap. The Organization for Economic Co-operation and Development (OECD), précises that *The non-formal learning includes various structured learning situations which do not either have the level of curriculum, syllabus, accreditation and certification associated with the formal learning, but have more*

structure than that associated with the informal learning, which typically takes place naturally and spontaneously as part of other activities. The non-formal learning appears as structured type of education that is not necessarily guided by a formal curriculum may be led by a qualified teacher or expert and not leading to an official degree or diploma; it is a kind of continuing education like for adults [3] (Eaton, 2010). The term informal learning refers to undertakings that happen outside of educational institutions, and are voluntary rather than compulsory [4]; it is also seen as more flexible and accessible to information as users can easily create and share content and interact. L. Green [5] outline informal learning as spontaneous, unstructured, and occurring in daily life across all settings and with no curriculum. In [6], the author notes that informal learning includes the socialization of education that generally occurs unconsciously; it is also seen as arising automatically through daily activities and interactions with others [7]. Based on this framework, informal learning is categorized into broad categories [8, 9] as follows:

- i. Informal learning can take place in a range of settings including schools, work, community and home. Intentionally sought by learners, this kind of learning uses a curriculum and teacher, but does not lead to a diploma. It includes many subtypes of learning, including non-credit based learning, work-based learning, education / civil service, orientation / mentoring, and practice communities.
- ii. Daily informal learning also occurs in school, work, community or home; the teacher in these settings does not include structured curricula, and learners have a set of intentions in which learning can be self-directed, incidental, and / or embedded in the socialization process. It is a type of learning that occurs during everyday life.

In the same context, Schugurensky (2000) divides everyday learning into three subcategories within the concept of daily informal learning: Self-directed learning, casual learning, and social learning; these differ depending on the momentum of the learner's motivation to seek knowledge; self-directed learning occurs when the learner actively seeks knowledge and realizes that learning has occurred; in contrast, learning can happen in two ways without the learner intending to: Through tacit knowledge or socialization, the learner does not seek to learn (SeeTable1).

Table 1. Continuum of Learning Formality [10]

	Formal learning	Organized informal learning	Everyday informal learning		
			Self-directed learning	Incidental learning	Tacit learning
Location	School awarding formal credential	School not awarding formal credential, work, or community	Work, community, home	Work, community, home	Work, community, home
Process	Instructor led	Instructor led	Learner led	Contextual	Contextual
Content	Organized curriculum	Organized curriculum	Learner organized	Spontaneous based on need	Social norms and practices
Purpose	Intentionally sought	Intentionally sought	Intentionally sought	Not intentionally sought but aware after	Not intentionally sought, not aware after

In this study, the authors chose to focus on the intentional research of knowledge: *Everyday Informal Learning* through what is being offered via self-direction. Thus, involuntary forms of learning are not under study within this research. Moreover, since education occurs in a variety of ways, some of which are common in informal learning such as experiential, relational and site learning, and is based on the impact of the context in which learning takes place, researchers decided to question the effectiveness of SM as open communication spaces that allow relational and participatory learning through the three-stage passage, mentioned in the Online Collaborative Theory

## 2. Literature review

In this section, the authors chose to address previous studies related to two keywords in this paper: Online learning and SM.

### 2.1. Online Learning

Researchers usually refer the term of online learning to the manipulation of technology that is changing education delivery through a multiplicity of online platforms [11, 12]. In fact, technology is playing an increasingly important role in mediating learning and expanding its capabilities through opportunities such as online learning, massive open online courses (MOOCs), games and simulations, mobile learning, social... etc. In [13], explains that technology-based learning tools have been developed, from simply accessing the e-learning environment to reading and writing and participating in virtual dialogue in online spaces. These types of technologies have both formal and informal aspects. Several concepts have been brought up regarding this connection between computer and learning such as the term computer-based learning like any technology-based environment in addition to mobile technology that has expanded more educational opportunities. Brown and Mbate note that the primary focus on cellular learning has given way to more focus on learner movement [14, 15]. Connectivity seems to be in the center of interest of many researchers; many studies specify that mobile learning ranges from very informal to formal as a student using a portable device for formal learning may post on SM for a personal college course or take an online course using a tablet in a public library. Unofficial use may take the form of an app-based game, Google Chat with an expert on the other side of the world, or Street View online search [16]. Means et al. clarify that thanks to the connectivity and nonetheless of platforms - whether discussion boards, chat rooms or online broadcasts - online learning is believed to raise access capacities to virtual content regardless time or location [17, 18]. Special emphasis has also been placed on online learning in the context of formal learning by many educational institutions as the use of online programs causes a change in the physical space for learning while all other conditions remain the same; National Education. Despite the differences between the types of learning, many similarities in the way in which learning takes place do exist. A number of researchers have expressed similarities in traditional formal learning methods and everyday learning. They also pointed the role of technology and online environment in shaping new ways of education. Several theories have been developed to suggest best practices in online learning such as active learning theory and like situated learning. Researchers have also raised the question: How does Learning occur? In this matter, Bransford, Brown and Cocking (2000) underline the importance of understanding rather than memorization as a goal of learning. Understanding occurs when information is organized around key concepts and can be applied in a variety of contexts. In [19], focuses via her Online Collaborative Learning (OCL) on the facilities the Internet provides particularly, fostering collaboration and knowledge building.

## 2.2. Social media

SM as a set of Internet-based applications based on ideological and technological grounds that allow the creation and exchange of user-generated content (Kaplan and Haenlei), has changed the components of the communication process; it has given people the opportunity to share personal experiences, comment on current events, meet people and interact with them without any restrictions which opened the door wide for collaborative activities [20]. Several studies have considered the use of SM in teaching and learning contexts for many years as many researchers have supported integrating social networks as an educational tool, especially virtual classes that use Google Classroom, Edmodo, and Instant applications like WhatsApp, Facebook and Instagram [21]. Selwyn explains that using some SM such as Web Chat, LinkedIn and Flipped E-classroom is an alternative learning environment for some universities. SM seem to provide a liberal environment for students to chat, and spread their ideas freely away from the regular traditional semester [22]; In fact, students spend a lot of time each day in the virtual space [23] blogging, downloading and uploading documents in text, audio, images or movies using Facebook, Instagram, YouTube, and others. This general use supports the SM learning feature. Luzon notes that there is an increasing number of academic blogs - that are serving as a platform - for exchanging academic and discipline ideas [24]. According to , the use of SM has enhanced the learning experience for undergraduate business students; their use allowed both the teacher and students to perceive their roles, and helped change their behavior in the classroom [25]. Wessler states that social networks give students the opportunity to implement new methods of learning but notes a number of inappropriate uses for educational institutions such as vulgarity, obscenity, harassment, etc [26]. While the first studies addressed the importance of introducing SM into the educational environment as part of the learning process, other studies focused more on the opportunities SM provides for learners and educators. Owusu and Amank consider the potential importance and impact of SM of education practice and provision, especially in terms of higher education; SM is used in many educational aspects such as improving communication and writing skills, supporting group discussions, studying in a collaborative environment ... etc [27]. Through SM, students can contact their lecturers for clarifications, submit assignments, and access to other required academic information; they also have the opportunity to connect with their peers. Hence, SM appears to be considered a virtual open space for communication, interaction and influence using many tools such as blogs, instant messages and virtual

communities in different contexts such as language learning and writing skills improvement, post-class and asynchronous discussions, asynchronous discussions, community building, and curriculum tool [28, 29]. This has contributed greatly to changing the type of relationship between learners and teachers. Despite the widespread use of SM in the field of education in many countries in the world, some regions are still late in incorporating these methods into the educational system. Some studies conducted in Bulgaria for example have shown the weak use of SM, where results showed no use for tools like wikis [30]. The advantages and limitations of SM integration as an educational tool in the higher education sector have been examined by many researchers, and have been enumerated by Saad and Alexander [31]. Jessica et al. have focused on its use in medical studies; they have explained that SM is a valuable means for professional physicians to enhance communication with surgeons and direct them to improve the interaction between doctors and patients as well as mentors and trainees [32]. Walt has also traced the positive effects of SM on the behavior of civil engineering students [33]. A number of studies have focused only on the limits of SM as educational tools, mainly related to web content. According to [34], although the use of SM can be beneficial to students, access to information easily and repeated use of may increase the threat of its immoral use. In the same context, Hershner notes that the rapid increase in the amount of information available on the Internet has caused a number of information quality problems that are not always high and students may find it difficult to distinguish information from Intox [35]. SM has been the subject of much controversy within the educational community. For his part, Manasijevic explains that while increasing numbers of teachers celebrate the ability of social networks to (re) engage learners in their studies, others fear that such applications compromise and disrupt youth participation in providing 'traditional' education [36]. In the Arab region, researchers raised questions related to the application of information and communication technologies (ICT) in educational institutions rather than measuring the inclusion of SM in the learning process concluding that the educational system is at a stage of transformation in the schools and universities' curriculum [29]. Some studies were focused on how SM were integrated in the Emirati society where social networks are perceived as a vital source of information, vehicle of news, opinion sharing, cultural production and entertainment. According to Snoussi, who conducted the first research about the use of SM in the teaching and learning process in the UAE, there are three categories of uses: SM as a source for exchanging academic materials, academic discussions and news spreading [29]; Most recent studies focused on the impact of the pandemic on integrating SM into educational systems. After addressing the distance learning experience using SM for Malaysian students, Bernadetha concluded that it seemed only effective for theoretical courses, while field courses felt less effective. In this paper, the authors will discuss the behavior of SM uses for learning among Gulf users and during a particular period of time: Covid-19 pandemic [37].

The problem of this study is formulated as follows: What are students' perceptions and behaviors regarding SM as learning tool?

This study aims to:

- i. Understand how students use SM for learning purposes,
- ii. Find out the potential value of SM resources in the informal learning context,
- iii. Measure the pedagogical value of SM.

The research questions are fixed as follows:

RQ1: what are the main general uses of SM by students in the Gulf region?

RQ2: what are the users' perception of the SM opportunities and limits in learning?

RQ3: what are the SM users' behaviors as learners?

### 3. Materials and methods

This is a quantitative descriptive study using survey methods, an online questionnaire was randomly addressed to (n=284) students. It has to be noted that the sample includes participants from two of the oldest universities in the Arab Gulf region: University of Sharjah (UOS) located in the UAE, and King Saud University (KSU) in Saudi university [38]. A comparative approach will be conducted to emphasize the similarities and differences between KSU and UOS samples' perceptions and behaviors regarding SM as everyday informal learning tool. Reliability of the questions was verified by performing a pilot survey. The questionnaire was designed and distributed through Microsoft Forms, then Data was copied into SPSS for further analysis; it included four (4) parts: Participant' profile (gender, qualification, age and specialization), general uses of SM, participants' perceptions about the SM in learning and participants' SM behavior for learning. The survey link was distributed to students by emails, SM and LMS, from June 1 to June 20, 2020. This research is based on the Online Collaborative Learning (OCL) developed by [39] who considers the virtual space as a means to reshape formal,

non-formal, and informal education for the Knowledge Age, and stipulates that there are three (3) phases of knowledge construction through the online environment:

- i. Idea generating: the brainstorming phase;
- ii. Idea organizing: the phase where ideas are compared, analyzed, and categorized through group online discussion and argument;
- iii. Intellectual convergence: the phase of synthesis and consensus occurrence, through an assignment, essay etc.

The OCL accreditation will help understand how Gulf students seek knowledge and interact in a collaborative environment during the Coronavirus pandemic, and determine if SM can be considered a powerful means for learning.

## 4. Results and discussion

### 4.1. Demographic profile

The sample includes 284 participants, (58.10%) of whom are male and 41.90% female. As for the educational level, the bachelor's degree is conquering 73.59%. A relative balance is observed between the ratio of participants registered in scientific studies such as engineering, technology and various sciences (41.54%), and those enrolled in arts, humanities and social sciences students such as languages, communication, history. etc. (58.45%). It should be noted that the sample includes (46.13%) of participants from UOS and (53.87%) from KSU, see Table 2.

Table 2. Demographic profile (n=284)

Demographic profile		F.	%
Gender	female	119	41.90
	male	165	58.10
	Total	284	100.0
University	UOS	131	46.13
	KSU	153	53.87
	Total	284	100.0
Specialty	science and technology	118	
	humanities and social sciences	166	
	Total	284	
Qualification	undergraduate	209	73.59
	graduate	69	24.29
	Post graduate	6	2.11
	Total	284	100.0

To answer the research questions, three axes were developed: General uses, opportunities and limits of use for learning, and Behaviors.

### 4.2. General uses of social media (informal / everyday learning)

According to the data, WhatsApp is unanimously the most everyday used SM app by all participants, as it comes first in both samples (means = 4.84 for KSU sample and 3.56 for UOS sample). Twitter and YouTube are ranked second and third in terms of intensity of use, in the KSU sample (means = 4.48 and 4.42) while respondents in the UOS in the same ranks prefer Instagram and YouTube (means = 4.44 and 3.38). As for medium-density uses, the difference is more noticeable as it is observed that KSU participants prefer Instagram and Telegram (means = 3.67 and 3.17), but UOS participants go to Twitter and Facebook (means = 2.76 and 1.99).

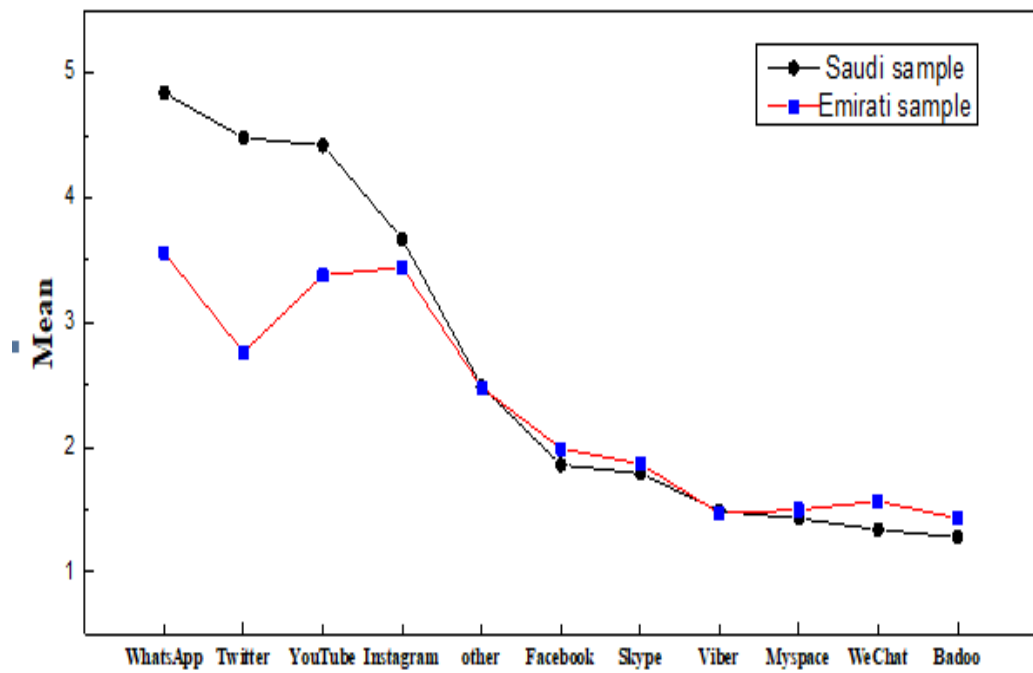


Figure 1. Proficiency of SM use

The overall results of this survey show that WhatsApp, YouTube, Instagram and Twitter are the most popular intensively used applications by the participants, see Table 3.

Table 3. Intensity of SM weekly use

KSU Sample	F.	Percent	Percent	F.	UOS Sample
1-5 h/week	17	11.1	17.6	23	1-5 h/week
6-10 h/week	58	37.9	24.4	32	6-10 h/week
11-15 h /week	78	51.0	19.1	25	11-15 h /week
more than 15 h/week	0	0	38.9	51	more than 15 h/week
Total	153	100.0	100.0	131	Total

Table 3 highlights the high weekly usage rates for SM applications in both samples, where the first ranked answers are: (from 11 to 15 hours) per week for the KSU sample (51%), and (more than 15 hours) per week for the UOS sample (38.9%). The answer (6 to 10h/week) is ranked second (KSU = 58% and UOS = 24.4%). Thus, the data shows that there is an intensive use of SM by the expanded Gulf sample.

Table 4. The number of joined academic groups

KSU sample	F.	Percent	Percent	F.	UOS sample
none	28	18.3	19.1	25	none
1 to 5	72	47.1	40.5	53	1 to 5
6 to 10	34	22.2	28.2	37	6 to 10
11 to 15	6	3.9	4.6	6	11 to 15
above 15	13	8.5	7.6	10	above 15
Total	153	100.0	100.0	131	Total

Table 4 shows that 47.1% of KSU participants and 40.5% of UOS's are members of (1 to 5 groups) related to learning activities. Besides, 22.2% of the first sample and 28.2% of the second, are involved in (6 to 10 groups) concerned with the same purposes. The results indicate the interest of respondents to be involved in learning-related groups.

Table 5. The number of followed academic groups

KSU sample	F.	Percent	Percent	F.	UOS sample
none	22	14.4	18.3	24	none

KSU sample	F.	Percent	Percent	F.	UOS sample
1 to 5	61	39.9	47.3	62	1 to 5
6 to 10	37	24.2	22.9	30	6 to 10
above 10	33	21.5	11.5	15	above 15
Total	153	100.0	100	131	131

Data displays a majority of participants following (1 to 5) academic groups on the SM, (39.9% of the KSU sample and 47.3% of the UOS's). A non-negligible rate follows them more closely (5 to 10) groups (24.2% of the KSU sample and 22.9% of the UOS's).

Table 6. SM general uses (everyday informal learning)

KSU sample	Mean	Std. D.	Std. D.	Mean	UOS sample
Self -promoting	2.42	1.055	1.082	2.27	Self -promoting
Self- news updating	2.88	.956	.985	2.15	Self -news updating
entertainment	3.51	.689	.761	1.75	entertainment
Participating in group discussions	2.93	.915	.935	2.36	Participating in group discussions
curiosity	3.58	.644	.912	2.22	curiosity
Reading posts' comments	3.43	.723	.887	2.12	Reading posts' comments
Looking for academic support	2.67	.977	.903	2.31	Looking for academic support
Without a precise reason	2.54	1.186	.993	2.19	Without a precise reason

Table 6 indicates that the KSU respondents use SM mainly by 'Curiosity' (mean =3.85), for 'Entertainment' (mean =3.51) and to 'Read posts' comments' (mean =3.43); while the UOS participants focus on 'Participating in group discussions' (mean =2.36); they are particularly interested in 'Looking for academic support' (mean = 2.31) and Self- promoting (2.27). It is also noted that the lowest average uses were 'Self –promoting' for the KSU participants (mean = 2.42) and 'Entertainment' for UOS's (mean =1.75). Moreover, 'Looking for academic support' was at the 6th level of use in the KSU sample (mean = 2.67). Remarkable in the results is the tendency of more than half of the sample to use SM without a precise reason or motive (means= 2.54 for KSU participants and 2.19 for UOS participants). It is worth noting, as the last note at this level, that the means generally appear higher in the KSU sample (see Figure 2).

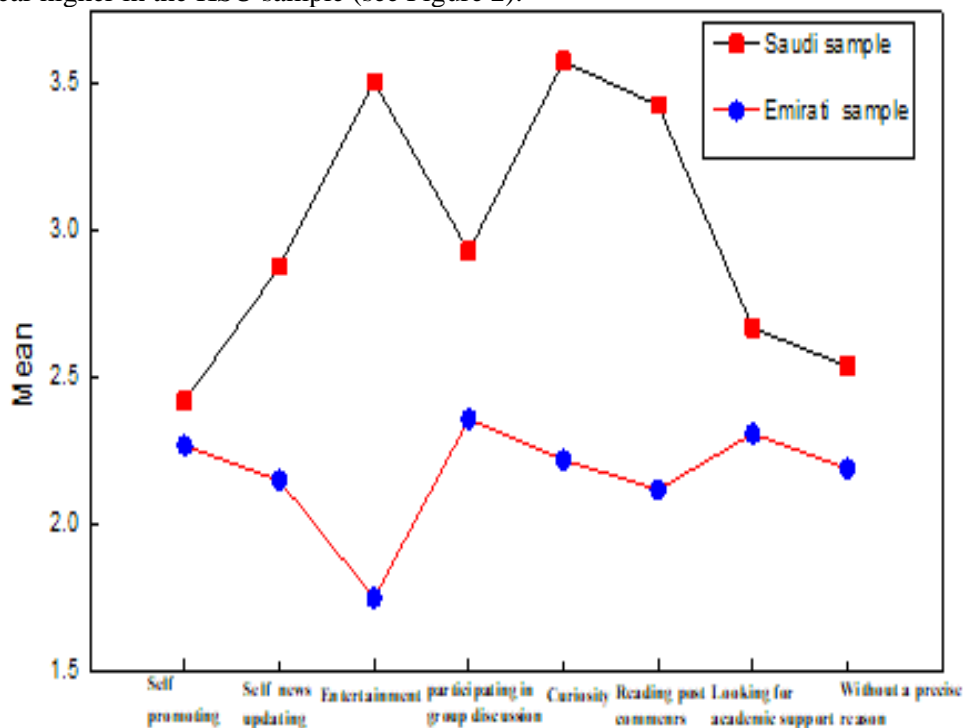


Figure 2. SM general use tendency of KSU and UOS learners

Thus, to answer the RQ1, authors confirm that SM appears to be the main tool for communicating, socializing, discussing and satisfying curiosity. This collective recognition of the value of SM in communication hides small differences between the two samples; KSU participants are mainly concerned by the leisure and relational aspects provided by SM while UOS respondents are more involved in the online collaborative opportunities for interaction, learning, and self- promotion. Therefore, it appears that the use of SM for everyday informal learning purposes is more developed by respondents at the University of Sharjah. This can be explained by sexual influences: in fact, 73% of the King Saud University sample was male, the overall use of SM was 61.4% for entertainment and 66.7% by curiosity; While 60% of participants at the University of Sharjah were female. It should be noted that the nature of female students in the Gulf region is the tendency to dialogue, debate virtually, while male students tend to communicate for fun and discussion about public interests without necessarily focusing on learning. Despite this, and given the data on the number of groups that the respondents are interested in, it is necessary to emphasize the great SM use of the two samples for several purposes, including learning since almost half of the overall sample claims to track and subscribe to 1 to 5 academic groups, and about a quarter of them in 6 to 10 groups for the same purposes; respondents show serious interest in academic groups dedicated to online learning, in terms of both follow-up and membership.

### 4.3. Users perception regarding the social media enhancement for the learning process

To determine the extent to which the sample is persuaded that SM can enhance learning experience, the focus was put on the opportunities offered by social networking sites as well as their limits (RQ2).

Table 7. SM opportunities for learning

KSU sample	Mean	Std. D.	Std. D.	Mean	UOS sample
easy to use /manipulate	4.55	.706	.799	3.38	easy to use /manipulate
Easy to access	4.53	.752	.884	3.39	Easy to access
able to publish posts/photos/videos	4.72	.528	.859	3.37	able to post posts/photos/videos
able to share educational documents	4.57	.635	.863	3.28	able to share educational documents
easy to interact with fellows and instructors	4.50	.889	.893	3.20	easy to interact with fellows and instructors
easy to download content	4.41	.854	.864	3.23	easy to download content
Groups can be set up	4.54	.768	.909	3.21	Groups can be set up
Variety of privacy options	4.27	.897	1.001	3.19	Variety of privacy options
Able to host documents	4.38	.795	1.001	3.19	Able to host documents
Instant chatting about projects	4.56	.723	.916	3.23	Instant chatting about projects
Send and receive private messages	4.64	.601	.849	3.31	Send and receive private messages
Follow the news and updates of education nature	4.50	.698	.956	3.13	Follow the news and updates of education nature

Table 7 shows the five largest opportunities that the KSU sample referred to as follows: ‘Able to publish posts / photos / videos’ (mean = 4.72), ‘Send and receive private messages’ (mean = 4.64), ‘able to share educational documents’ (mean = 4.57), ‘instant chat about projects’ (mean = 4.56) and ‘ease of use / manipulation (4.55). As the five most opportunities indicated by the UOS sample are: ‘Easy to access (mean= 3.39), ‘easy to use /manipulate’ (mean=3.38), able to publish posts/photos/videos’ (mean=3.37), ‘send and receive private messages’ (mean=3.31) and ‘able to share educational’ (mean=3.28).

Figure 8. SM limit for learning



KSU sample	Mean	Std. D.	Std. D.	Mean	UOS sample
Used for personal and social life	3.9	1.04	.866	1.8	Used for personal and social life
Resources not easy collected	3.3	1.15	.932	4.1	Resources not easy collected
Group collaboration in the same document is not easy	3.4	1.219	.935	3.7	Group collaboration in the same document is not easy
Not supported by university	3.1	1.306	1.070	3.6	Not supported by university
Cannot integrate with VLE (virtual learning environment)	3.2	1.121	1.016	3.5	Cannot integrate with VLE (virtual learning environment)
Sometimes group moves from university-related work to personal	3.7	1.046	.932	3.7	Sometimes group moves from university-related work to personal
Hard to organize (no tagging or folders so can't be structured)	3.1	1.283	.942	3.6	Hard to organize (no tagging or folders so can't be structured)
More difficult to review past information beyond a certain point	3.2	1.385	1.067	3.6	More difficult to review past information beyond a certain point
absence of academic language usage	3.6	1.224	1.080	3.4	absence of academic language usage
Lack of credibility on shared content	3.3	1.246	1.017	3.5	Lack of credibility on shared content

The results of Table (8) indicate that the most common limits for KSU participants are: 'Used for personal and social life' (mean=3.9), 'sometimes group moves from university-related work to personal' (mean=3.7), 'absence of academic language usage' (mean=3.6) and 'group collaboration in the same document is not easy' (mean=3.4). Respondents from the UOS mentioned the following limits: 'Resources not easy collected' (mean=4.1), 'sometimes group moves from university-related work to personal' (mean=3.7), 'not supported by university' (mean=3.6), 'more difficult to review past information beyond a certain point' (mean=3.6) and 'lack of credibility on shared content' (mean=3.5). To answer the RQ2, the sample appears to think that the chances provided by SM to users are to communicate and exchange files between peers and instructors. These announced opportunities appear as facilitators to integrate SM into the learning process inside and outside the classroom (formal learning) as well as incentives for self-directed learning (informal learning) through collaborative work and virtual group discussions. The perceived limitations primarily lie on the lack of credibility and authenticity of the information circulated on the SM; KSU participants believe that these limits are not specific to learning but appear to be more related to personal use. The UOS sample mentioned the shift from educational to personal purposes of use as a factor reducing ratification of learning via SM.

#### 4.4. Social media users' behavior for everyday informal learning

Data illustrates the behaviors of the KSU respondents as follows: 'Search for resources for key learning such as documents /video lessons/ research papers/e-books, Lab manuals, Lab reports...etc.' (mean = 3.18), 'search for information to understand science concepts' (mean=3.1), 'search inspiration from project topics' (mean=3.04), 'discuss with classmates about homework/exercises assigned by instructors' (mean=3.03) and 'search for info to understand key concepts'(mean= 3.28). As for the behaviors of the UOS sample, they are: 'Search for resources for learning such as documents /video lessons/ research papers/e-books, Lab manuals, Lab reports...etc.' (mean=3.27), 'present my work to my peers /instructors' (mean=3.15), and 'discuss with classmates about projects/homework/exercises assigned by instructors' (mean=3.14).

Table 9. SM behaviors for learning

KSU sample	KSU			UOS sample		
	M.	Std. D	Std. D	M.	Std. D	Std. D
Search for info to understand key concepts	3.1	.860	.737	3.28	.860	.737
Search for resources for learning (documents /video/e-books, reports...etc.	3.18	.838	.778	3.27	.838	.778
Join SN groups to share homework, links /assignments/documents...etc.	2.88	1.07	.972	2.96	1.07	.972
Search inspiration from project topics	3.04	.999	.863	3.13	.999	.863
Discuss with classmates about homework/exercises assigned by instructors	3.03	.979	.875	3.14	.979	.875
present my work to my peers /instructors	2.87	.865	.866	3.15	.865	.866

*Significant at the 0.05 level (2-tailed)*

To answer the RQ3, it is relevant to say that the *research* comes at the forefront in the two samples; participants are making significant use of the opportunities provided by SM in searching for sources, information and topics related to their studies; then come activities like interactivity, exchange of ideas and presentations, in the sense of cooperative behaviors. Thus, it can be concluded that the respondents' behaviors stem from the cognitive needs first and then the relational and collaborative needs in the second place. These behaviors that seek to build knowledge, followed by appetites for virtual collaborative activities, are consistent with what the theory of online collaboration has gone.

## 5. Discussion

The use of SM for everyday informal learning purposes appears to be intense for the general sample; it appears to be the primary tool for communication, social contact, discussion and curiosity. The findings regarding the extensive general use of SM are consistent with the results of many previous researchers such as Kaltiala et al., and Song et al. who observed passion of use while [40] Lenhart stressed the importance of these networks for self-entertainment, communication and interactivity between Saudi youth, and highlighted other purposes such as 'keeping in touch with friends' and 'making new friends' [41, 42]. Perceived opportunities for SM for learning lie in the possibilities of enhancing communication and interactivity. These opportunities appear as facilitators to integrate SM for self-directed learning through collaborative academic activities and virtual group discussions. Despite the average use of the SM claimed by the KSU sample for education; Recognition of their proficiency in non-formal learning processes is confirmed mainly through 'exchange of educational documents'. As a matter of fact, SM has always been considered as a great open space for informal learning. In [43] confirm that almost all Saudi universities use Twitter for several motives, mostly to reach a large audience promptly. SM is used to share relevant news elements, such as academic achievements and outstanding awards in Saudi society. Guijarro et al. (2018) also highlighted the power of these networks that enable knowledge building and interaction through many tools such as blogs, instant messages and virtual communities in various contexts such as language learning and improving writing skills, post-semester, asynchronous discussions, and non-discussions concurrent and community building. Concerning the limitations, results indicate that the boundaries lie some times on the deficiency of authenticity of the information circulated on the SM, in the absence of the academic language, the ease of switching from educational use to personal and the lack of credibility especially with the spread of fake news. However, some of KSU participants believe that these limits are not specific to learning purposes but appear to be more related to personal use. For such negatives, some studies conducted in Bulgaria have shown poor use of SM as a formal learning tool [30]. In the same context, Hamat spoke about the informal learning use of SM and its negative impact on the educational institutions in higher education; they stated that the freedom to share individual opinions using an official university account is limited; for example, the university community may hold the responsibility of a tweet viewed as negative, and that will not only be a legal risk, but will also harm the academic reputation of the university [44]. Therefore, in order to control the use of SM, King Abdulaziz University established the University Observatory Center in

2014 motivated by the idea of web observatories. Moreover, for the SM users' behaviors as learners, it is relevant to say that participants are making significant use of the opportunities provided by SM in searching for sources, information and topics related to their studies; then come activities of interactivity and cooperative behaviors, which seems to be coherent to their perceptions and to what the Online Collaborative Theory has gone to; In fact, SM is able to play the role of the ideal context for brainstorming, organizing thoughts, comparing ideas, analyzing situations, synthesizing and producing knowledge through virtual group discussions and simultaneous sessions online and other opportunities that this open communication tool can offer. Owusu and Amank insists on the potential impact of SM as learning tool, especially in terms of higher education where it can be used in many educational aspects such as improving communication and writing skills, supporting group discussions, studying in a collaborative environment ... etc[27].

## 6. Conclusions

Overall, the findings indicate that the SM intensive uses drive them to experience everyday informal learning, and enable them to build perceptions and behaviors. These perceptions are mostly positive, they value the role of SM in facilitating communication, acknowledge the opportunities it provides for informal learning. The results of the research emphasize the key role of SM as an everyday informal learning space and embody the concept of the Collaborative Online Learning theory as it confirms that the best way to learn through these networks is the methods of collective participation such as brainstorming, discussions, exchange of perceptions and eventually reaching a consensus in opinions on the issues raised. Given the use of these participatory methods in the formal learning settings, the idea of including SM within educational pedagogies in schools and universities becomes very suggestive, especially in this age in which the effectiveness of the virtual space to sustain education in crisis and epidemics has been proven. Moreover, the digital divide and high prices of engaging in educational platforms such as the Learning Management Systems in some countries make SM a better alternative; this is what happened in some countries such as Bulgaria during the times of quarantine due to the Coronavirus. For that, the authors believe that more researches on SM as formal learning tools should be conducted to ask about their suitability with the courses and programs offered by universities in various disciplines. Finally, the main limitations of this research lie on the inability to reach a larger number of participants; the authors published the link on formal and informal communication channels to reach students at both universities, but the response was moderate. Besides, the participation of other universities in the Gulf region has been sought, but the state of quarantine as well as the schedule of final exams for the spring semester 2020 made it postpone the cooperation. It was agreed that there will be expanded research at the beginning of the next semester - Fall 2020 - to start a broad research involving five universities from different to address the same topic in other contexts.

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