

## Exploring the relationship between social media knowledge platform (SMKP) using smart devices and the impact on students' academic performances

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### Abstract

This research study is an attempt to investigate and recommend the applications and usefulness of social media as a knowledge sharing platform using smart mobile devices and students' academic performances. Research literature reveals that further examination of this idea is a must as it is increasingly becoming an integral part and a current mandate for digital-era learners. This study is exploratory based on learners' data which includes students from foundation, junior and senior courses at a university. The objective was to cognize learners' perceptions on collaborative learning while using applications of social media knowledge platform and smart mobile devices. Structural Model approach is followed to validate the data and undertake the required analysis. The resulting analysis shows that a significantly positive relation exists between the available platforms of knowledge applications using smart devices and its substantial impact on students' overall performances. In addition, it could be observed that generally students have positive and valuable perception on the use of social media knowledge platform and smart mobile devices in collaborative learning settings. Moreover, such settings encourage students-students' interactions, students-teachers' interactions, and the growing trends of students to online experts' interactions. Furthermore, it was noticed that these interactions improve students' engagement with such platforms using smart devices, which consequently has significant positive impact on students' academic performances. The findings propose the inculcation in students the positive role of the use of social media knowledge platforms using smart devices so to encourage collaborative learning, to enhance active learning, to be more dynamic & engaging, to broaden their domain-knowledge, and to promote academic research-oriented learning, which are all crucial for graduate employability.

**Keywords** Collaborative learning, Knowledge, social media, Smart Devices, Employability.

### 1. Introduction

Social media usage has rapidly increased during the past few years among working people, students, and in our

area of interest, the education sector. Social media usage has had a comparatively good effect on societies. With the aid of the Internet, a wide range of social networking sites and applications have become accessible and have enabled users to easily communicate and engage with one another. It has enriched communications by allowing users produce, edit, & share new types of textual, visual, and audio contents. It has significantly impacted how we live because it benefits all spheres of life, be it political, economic, or educational.

The rise of social media over the past few years has altered the ways most end users now utilize the internet. The social media is based on the idea of how people connect and communicate with each other. It empowers people to share, open-up the world, and strengthens human networks (Saqib, Al Toobi, Al Nadhiri, & Younus, 2018).

Billions of video oddments are watched on YouTube every day and they are uploaded periodically or continuously by different category of users. Over 90% of college students use social media on a daily basis. People use Facebook, Twitter, LinkedIn, online gaming platforms, and other social networks as part of their daily lives.

### 2. Literature Review

**2.1 Social Media Knowledge:** Social networks have firmly established roots in contemporary culture where people make use of them daily. These include internet gaming, Facebook, Twitter, LinkedIn, and as well as other tools and environments. Social media sites for kids are more peer-based which drives the desire of youth to study. They sometimes more into learning from each other rather than from grownups. Adults and educators tend to become more of facilitators. Children become more engaged in their learnings as they are more connected than ever. Children friendships are easier created even with individuals from all around the world, whom they would never have connected or ever meet without these modernizations. Professor Larry Rosen points out that those teenagers are becoming increasingly adept at virtually emulating other people in distress. Therefore, this further emphasize the point that social media platforms enable users to communicate, interact, produce, edit and share new kinds of textual, visual, and audio contents. Social media applications are perceived as open rather

than closed and bottom-up rather than top-down. (Chatti, 2010).

In literature, it could be observed that generally students have positive and valuable perception on the use of social media knowledge platform and smart mobile devices in collaborative learning (Ansari & Khan, 2020). In the process of innovation, social media is being utilized more and more as a tool to manage knowledge flows both within and across organizational boundaries. (Bhimani, 2019). Developing knowledge and enduring relationships with actual people is simple thanks to social media. Together, students can learn. (Wang, Xu, & Liu, 2022)

Students are more likely to utilize these social media sites, and there are links between students' specialization and their usage of content-sharing groups and forums in the knowledge process. (Aleksandrova & Parusheva, 2019). Utilizing social media ethically and skillfully can elevate social workers, change policy, engage the community, and advance social justice. (Gilster, Kleinschmit, Cummings, & Ronnenberg, 2020)

**2.2 Social Media Learning Platform:** It's very common that most students and teachers use social media in the classroom and own smartphones. Actually, many websites and apps provide social networks in a learning environment. Educational institutional are increasingly using social media as faculty and staff use a variety of technology tools and free web applications to enhance learning, communication, and participation. Social media-based learning systems give students more influence over their education than traditional teaching methods, which give little opportunity to create and maintain learning activities. (Creswell J. W., 2007)

As more social media platforms are used to help teaching and learning, more study is being done in this area. Social networking sites for college students are available as aids established to increase both group study and social engagement According to report, the use of social media tools in traditional education is appealing to students and inspire their involvement in the learning. (Creswell J. )

The significant issues in e-learning and social networking sites were by informing the teachers in the classroom about the time (Saqib, Zarine, & Noor, The Smart City Imperatives-Achieving Smart and Sustainable Future, 2022). However, social media has made it possible to fix some of these issues by including an interactive side with students and encourage their participation in the instructional process that results in an improvement in attracting people to online learning and to make sense. (Ellison, 2019).

### 3. Learning Styles & Pedagogics

#### 3.1 Visual:

One of the most common and popular learning style is visual. In this style, a combination of pictures, images, videos and/or spatial data is used for clarification and understanding. For some reasons, most of the learners prefer this style as it is easy to demonstrate ideas/concepts and it can have a long-lasting effect on the learners' mind. People can remember images as compared to text. Research tells us that different parts of the brain are utilized for different learnings. The visual effects are stored at the back lobes of the brain quickly and can be remembered for a longer period.

**3.2 Aural:** One of the learning styles is aural. In this type of learning, people use audios, sounds or any music to explain the concepts.

#### 3.3 Verbal:

The specific students' learning styles and evaluation have gained considerable importance in the field of education. One of the seven different styles is verbal learning style, also called as verbal linguistic learning style as explained in theory of multiple intelligence by Howard Gardner (Brualdi, 1998). In this type of style, it is preferred to use words. The words can be used in speech as well as in writing. This learning style explains the ability of persons to reason, discuss, identify, solve problems and learn by speaking the language. Research shows that this style is one of the best and most widely used styles of learning (Rogowsky, Calhoun, & Tallal, 2015). People find it easy to use and play with words and explain with verbal style and then mix with other style depending on the nature of the subject and students' feedback. Verbal learners try the techniques that involves speaking and writing with examples. They try to find ways to incorporate word-based techniques, use rhyme, mnemonics, and scripting. This is the most widely used technique in schools with activities of reading, writing, and expressing themselves as shown in fig 1 and 2. (Hawk & Shah, 2007).

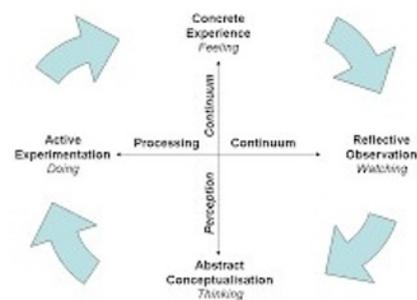


Fig: 1 Learning Cycle

#### 3.4 Physical:

This style is referred to as The Perceptual Learning Style Theory. It is kinesthetic (physical) learning, which involved physical body and hands motion. The sense of touch and motion because of learning by time. Kinesthetic learner will move to get concentration and thus directly involved.

They are not good listeners rather believe on physical movements and act to explain something. The learning process starts with their physical responses and moves. In research by Michelle titled "People learn with a purpose-Understanding learning Styles", it is clearly described that while preferring using your body motion in order to explain is better in some situations and learners (Michelle, 2014). Interactive demonstration with sense of touch and move via act is physical learning style. In this learning style, to achieve the maximum knowledge level, mind and body needs to be in a good state.

#### 4. How social media affects Students

Social media makes it easy to learn and build lasting relationships with real people. Students benefit from chatting with other roommates on Facebook, Twitter, and other social media platforms. It helps to overcome the loneliness that makes students drop out of school. Twitter account of a shy student might help provide details of activities that enable face-to-face communication. Private conversations like this are essential for fostering and maintaining a sense of community. Adapting technology to students' different learning styles are important. Learning preferences are nothing new. The effectiveness of social media comes from providing students with a variety of tools that they can mix and match to suit their needs. They improve academic success and study habits. (Papacharissi, 2010).

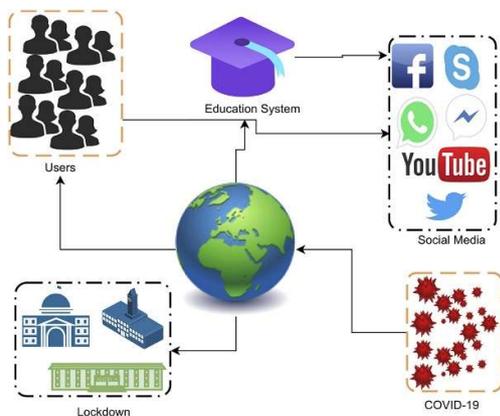


Fig 2: Use of Social Sites for Education during Covid

#### 5. Learner's awareness & Social-media Knowledge Platform

The first aspect investigated was faculty perceptions of several popular social media sites. Further measurements of faculty use of these websites for personal and professional purposes can be adjusted based on faculty's attention to particular social media websites. Given the high awareness of social media among the public

especially in the time of Covid as shown in figure 2, it is expected that university teachers will be social media savvy. Over 90% say they are familiar with sites like Myspace, Facebook, Twitter, YouTube and blogs. Awareness of other sites has dropped slightly, with over 80% saying they are familiar with wiki, LinkedIn and Flickr. However, away from the most popular social media sites, awareness drops significantly. Between approximately eighty percent of the teachers said they knew at least one out of eight social media sites, and less than half said they knew presentation sharing sites. Some common challenges and issues of social media faced by knowledge workers are as follows:

##### 5.1 Privacy

Many students spend a lot of time on social networking sites such as Facebook and Twitter. This will allow you to meet many new people you have never met, seen or spoken to. They leak incredibly private and intimate information, most of which can also be used for subversive activities. Although much of the information that people share on social networking sites is voluntary, users are increasingly comfortable sharing much of their personal information online. Students and many others quickly begin to trust strangers and open up intimate conversations that can be exploited. Social media presents a difficult challenge.

##### 5.2 Health Issues

Many health problems arise from spending hours on social networking sites. Constant access to network sites can lead to vision problems, back pain from sitting in the same position for hours, and more.

##### 5.3 Trust

A person can make many friends through social networking, but the authenticity and quality of these relationships are not necessarily genuine. However, information from these social networking sites for a person is not always honest and trustworthy, and they verify the members' personal information, such as age and location. However, websites allow users to present a realistic and positive self-image. Having several pals through social networking websites may mean more danger than well. This will impact how people utilize social networking sites in education (Zaidieh, 2019)

##### 5.4 Security:

Some Rather than uploading pictures, young people use social media to chat with friends and share ideas. However, occasionally events go wrong, and they interact

with unpleasant people, which could lead to malicious activities such as kidnapping. The number of abductions involving Facebook is rising, and there are far too many instances when Facebook has aided the kidnappers. For example, an Indonesian man was detained and charged with kidnapping and raping three adolescent girls after he pretended to be a photographer on Facebook. Authorities claim that after promising to turn them into models, he enticed them to meet with him and imprisoned them in a home. The police discovered numerous images of naked girls on his laptop and camera.

## 6. Positive and Negative Impact of Social Media in Education

### 6.1 Positive Impact

Social media has made the globe smaller since it has given us access to more knowledge and opportunities to use it. Because of social media, we are better able to handle information than ever before. We are also growing swiftly, and today's knowledge would have seemed overwhelming to someone 20 years ago and is now commonplace.

The benefits of social media for education are as follows:

1. Google and education: Google has aided over 20 million students in their academic endeavors using its products.
2. Students become more accustomed to computers and other electronic devices due to their extensive use of new technology.
3. As the use of technology in business and education becomes more prevalent, this will assist students in developing skills

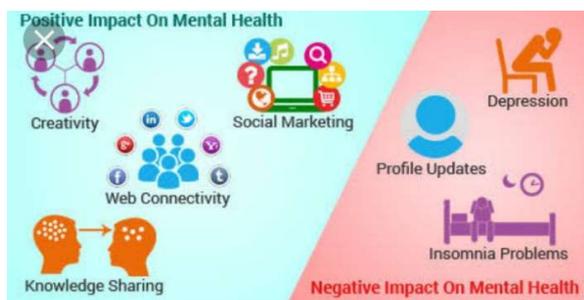


Fig 3: Several Impacts

### 6.2 Negative Impact

Social media addiction is a significant negative impact. Regularly monitoring LinkedIn, Facebook, and other social media postings as shown in figure 3. The consequences of this addiction include other admirable pursuits, such as studying intently, participating in sports, communicating in real life, and disregarding actual circumstances. On social media, there are countless false profiles. Networks of boys posing as girls to establish friends with girls and most of the time, these results in embarrassment. Also let downs that eventually lead to melancholy. If there is knowledge of the dangers of social media in our

community, it won't have a negative outcome. Unfortunately, there is always a lack of public awareness, as well as the aforementioned points that there are increasing numbers of internet activities especially in smart cities (Saqib, Zarine, & Noor, The Smart City Imperatives achieving Smart and Sustainable future., 2022).

### 6.3 Suitability of social media as knowledge platforms for students and faculties

Social media popularity has penetrated across all age groups including students and faculties. This has been further accelerated due to the made-easy access to social media through a variety of smart devices such as smart phones which are practically used by most students and faculties. The interest in use is already there without the need for any intensive training. This makes social media a suitable educational support tool that may act as knowledge platform for students and faculties (Adeniya, 2022).

### 6.4 Richness of academic contents on social media

The generated interest to explore social media contents encourages the exploration for relevant supporting tools and other interactive learning contents that can be shared among the learners. Such engagement with social media consistently creates valuable pool of knowledge that can be made accessible to all associated learners. As a result, it facilitates and broaden learning prospects of students and takes the learning process beyond classroom settings (Suraya & Abdul, 2019).

### 6.5 Engaging in social networks to enhance the learning process

Social media allows students to extend their existing social networks to further engage with their colleagues and faculties, and various educational groups associated to their field of study. This promotes the exchange of innovative ideas, clearing of doubts with respect to study areas, sharing of learning materials to assist in problem-solving, encourage group discussions revolving around trending topics, increase and inspire active participations by students, and facilitate the expansion of students' knowledge. The possibility for online collaboration minimizes commuting time thus allowing greater focus on individual studies. Additionally, it builds self-confidence and simplifies the management of learning process. Integration of those can significantly impact the learning process and academic performances (Agwi & Ogwueleka, 2018).

### 6.6 Learning anxiety reduction using social media

Research has shown that appropriate uses of social media within the educational sector can have positive impact on academic performances. The openness of students on social media greatly reduces the anxiety of students that may exist within the classroom environment. With the virtual group, students feel more comfortable to engage with their classmates and instructors to ask questions and clear their doubts. Better students' participation is very

likely. Social media tends to generate students' curiosity of what their specialization related colleagues and instructors are saying, and this leads to further explorations of educational contents and sharing with peers. Such can easily lead to creating valuable knowledge repositories which are accessible to all students for developing their own broad specialized knowledge. It can be argued that social media extend the learning processes way beyond the classrooms and can promote the urge for students learning.

### 6.7 Academic support to students through social media

Social media has provided easy access to academic counsellors by students whenever they need to solve academic issues. The openness of students on social media has made academic counselling much easier thus reducing many of the academic issues that students normally face. This allows for students who get deviated from their academic tracks due to academic issues to get the necessary support and quickly readjust to focus on their academic studies. The opportunity for direct access to content experts or to follow their blogs on social media can assist in enhancing students understanding of their study area. This allows students to have a closer view of real-life happenings in their respective study area and to acquire valuable associated knowledge updates. Such can act as inspirations to students and their learning. Consequently, it may encourage students to pursue internship opportunities where they can implement their acquired knowledge and gain actual industrial experience which is crucial for employability. As it may be noted, academic support through social media can be inspirational for students learning thus having positive impacts on their academic performances (Gilbert, et al., 2018).

## 7. Conclusion & Future Work

We have learned that there is a positive relationship between the available platforms of knowledge applications using smart devices and the impact on students' overall performances. At the same time, students generally have positive and valuable perception on the use of social media knowledge platform and smart mobile devices in collaborative learning settings. Therefore, emphasis should be placed on making such tools an integral part for digital-era learners. To further support these arguments, we also found that these tools encourage students-students' interactions, students-teachers' interactions, and students-experts' interactions, which are crucial for learning. As a result, positively impacting students' academic performances. We recommend that faculties pursue such idea to enhance the chance of learning. We also note some of the possible negative effects of social media on education which we recommend faculties to highlight them to ensure appropriate awareness by students.

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