

Impact of Social media in learning process among school students: A case of Telangana state, India

Madan Mohan Laddunuri & Veeraiah Kampasati
School Allied Health Sciences, Mallareddy Univeristy
Nizam College, Osmania University
Madan.socio@gmail.com

Abstract

Social media is revolutionising how people communicate and how information is shared. There are many different social networking websites available nowadays. Social networking sites undoubtedly have a significant impact on both "digital immigrants" and "native digital users." The researcher made an effort to look into how social media affects both "digital immigrants" and "digital natives" when they are learning science-related courses. The research study used a mixed-methods approach. The survey approach with a case study was used to carry out the investigation. In Telangana's Rajanna Sircilla district, a public school was chosen using the purposive sampling technique. Participants in the study included 150 Senior Secondary and Secondary School (Junior College) students in grades 9 through 12. To gather the data, a questionnaire with 30 questions was created. The study's conclusions showed that social media is crucial to the teaching-learning process. When used thoughtfully and effectively, social media can be highly helpful for both instructors and students. Social media use in education has been shown to have a number of disadvantages.

Keywords: Communication, Engagement, Information dissemination, Learning process, Social media, Science Education

Introduction

Every element of our life, including education, has undergone a paradigm shift as a result of technology's rapid growth (Varish & Sharma, 2020). In order to stay up with the newest trends, people's lifestyles need be improved in this digital age. The recent COVID-19 epidemic ended up being a gift for the spread of technology across all societal levels. The prevalence of digital transactions for simple purchases reduced people's anxiety about utilising technology. This might be viewed as a step toward the start of the Digital India programme by the Ministry of Electronics and Information Technology of the Indian Government, which aspires to transform India into a knowledge-based society and economy. The administration has been working nonstop to bridge the digital divide in education. Launching Study Webs of Active Learning for Young Aspiring Minds was one such admirable action by the Ministry of Human Resource Development of the Government of India (SWAYAM). The NEP 2020 also suggests creating a National Education Technology Forum as a venue for the open discussion of how to use technology to enhance teaching, learning, assessment, planning, and administration. Technology-enhanced learning is taking the place of formal education. There are now many different educational platforms available.

Technology integration is no longer limited to the classroom. With the ease with which the internet can be accessed, a variety of options for communicating, collaborating, networking, exchanging information, and constructing knowledge are accessible at any time and from any place. One such platform which has become a part and parcel of every individual is social networking sites or social media.

Rationale of the study

The means of communication and information dissemination are being revolutionized by social media. Social media is described by the Government of India's Ministry of Communications and Information Technology as "any web or mobile-based platform that allows a person or agency to communicate interactively and share user-generated content." It is an Internet-based platform that allows sharing of information (Bassell, 2010). Dabbaghand Reo (2011) explained Social media as "a type of online tool used to establish and maintain the connection with friends and acquaintances". It offers multiple opportunities for students to be engaged, form networks, and learn social skills (Dragseth, 2019). The basic aspect of social media is that it links like-minded individuals, allowing them to interact and build awareness that contributes to community sustainability. Today, there are a plethora of social networking sites to choose from. Numerous software and applications are being produced in the market as a result of technological advances. Collaboration projects, blogs and microblogs, content communities, social networking platforms, virtual gaming environments, and virtual social worlds were all classified as social media by Kaplan and Haenlein in Framework & Guidelines for Use of Social Media for Government Organizations, published in 2010.

It is undeniable that social networking platforms have a huge effect on both "digital natives" and "digital immigrants." According to Oberst et al. (2017),

social media is appealing because it serves as a forum for young people to shape social identities. Social media is a

“highly visible factor in the daily lives of four students” (Fiona & Ingo, 2018) and has a major effect on psychological well-being and satisfaction (Choi & Noh, 2019).

Studies have identified that social media has had a major impact on how people learn (Ellis & Ellis, 2015; Greenhow & Lewin, 2016; Mpungose, 2020). Social media has revolutionized how the new generation “learns, communicates, and develops” (Rajasekhar & Jaishree, 2020). Social media allows for collaborative online learning and can impact both students and teachers (Clement, 2020). In the educational process, social media not only aids in communication and networking, but also in the sharing of learning materials among learners, teachers, experts, and others (Joan, 2020).

Studies have shown that using social media plays a significant role in the teaching-learning process. Learning when combined with social media in teaching prospective science teachers’ TPACK was successful (Setiawan & Phillipson, 2019). Social media not only aids in learning but also aids in changing young learners’ perceptions and interactions in science (Wilson & Boldeman, 2012). Social media has demonstrated its ability to bridge the gap between science and family by allowing children to engage with science at home through social media platforms (Tyler & Vanstone, 2017). Also, science teachers believe that social media when used as a tool, offers opportunities for students’ advancement (Akif et al, 2020). When utilized for collaborative learning, social media has a significant influence on engagement with students, tutors, and virtual knowledge exchange (Ansari & Khan, 2020). Furthermore, the efficiency of social media in strengthening students’ communication abilities in the issue of fluids was discovered (Fatimawati et al, 2019). Social media has been proven to be a useful technique for improving communication between teachers and students (Khatun & Al-Dhlan, 2017; Sahrain et al, 2020). The internet and online social media were useful in enhancing productivity and contentment, with the

goal of encouraging internet users to communicate with others and increasing the number of online communication partners among teenagers with complex communication needs (Grace et al, 2014). When used in conjunction with a multimedia-based curriculum, social media has been shown to improve creativity among students studying art, design, and digital media (Al Hashimi et al, 2019). The Physics Learning Media course, which was aided by Instagram, proved excellent in improving students’ creative thinking abilities (Irwandani et al, 2020). Furthermore, social media contributed to the improvement of university students’ reading skills (Al Momani, 2020). Evidence of extensive social media use was reported in language acquisition (Istifci & Dogan, 2021).

Research questions

1. Does social media play any role in learning science? If yes, how?
2. Is social media a boon or bane for the students in learning science?

Objectives of the study

The researcher after a review of the literature and considering the influence of social media on the “digital natives” as well as the “digital immigrants” felt the need to study the role of social media in learning science subjects. The objectives of the study were taken as:

- To explore the different types of Social Networking Sites (SNSs) that students use.
- To investigate the role of social networking sites (SNSs) in science education.
- To study the benefits and disadvantages of using social media to learn science.

Operational definition

Social media: Social media is a technology-enabled medium where anyone may engage and exchange information, ideas, knowledge, and any kind of expression or thinking.

SNSs: A virtual community that links and allows both students and teachers to exchange ideas, study, educate, and share information and knowledge.

Methodology

Research design: The study adopted a mixed-method research design. The descriptive survey method was employed to conduct the research.

Population

Senior Secondary and Secondary school students studying in the public schools of Telangana were considered as the population for the study.

Sampling methodology and samples

The purposive sampling method was employed to select a public school from the Rajanna Sircilla district of Telangana. 150 Senior Secondary and Secondary

school students studying in classes 9 to 12 participated in the study.

Tool

A questionnaire was prepared with 30 items to collect the data. The survey was divided into four parts. The first section included demographic details, such as gender, age, and the class they were studying, as well as the resource availability for access to SNSs. The second section included items for extracting knowledge from SNSs as well as the fundamentals of their use. The third section contains an item about how social media aids science learning and students' perception toward using it as a learning tool. The final segment contains items to determine the disadvantages, if any, of using social media to learn science.

Result and findings

The analysis of the data indicated various findings which are discussed below.

Demographic findings and general information about social media usage

A total number of 150 students studying in class 9 to 12 participated in the study. Out of which, 62.5 percent were male and 37.5 percent were females. The maximum number of participants (52.8 percent) were studying in grade 11th, while 21.5 percent were in grade 12th students, 13.2 percent in grade 9th and 12.5 percent were studying in grade 10th.

Table-1: Demographic information of the students who participated in the study

Grade				Gender		Age		
9 th	10 th	11 th	12 th	Female	Male	13-14 years	15-16 years	17-18 years
13.2%	12.5%	52.8%	21.5%	37.5%	62.5%	20.8%	52.8%	26.4%
20	19	79	32	56	94	31	79	40
Total	150			150		150		

65.7 percent of the students reported owning their smartphones while 34.3 percent do not. 97.9 percent of the students confirmed, having an internet connection while 2.0 percent do not have an internet connection. A maximum of the students (81.8 percent) were found to be active on social media and they reported having a social media account. 50 percent of the students were found to be using social media mainly to update about the happenings in the world. 63.4 percent of the students were found to be fully aware of the opportunities offered by social media in the learning of science.

Table 2. : Personal attributes of the students

Owning smartphones		Internet connection		Active on social media		To update status		Opportunity of learning	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
99	51	147	3	123	27	125	125	95	55
65.7%	34.3%	97.9%	2%	81.8%	18.2%	50%	50%	63.4%	36.6%
Total 150(100%)		Total 150(100%)		Total 150(100%)		Total 150(100%)		Total 150(100%)	

Objective-1: To find out various categories of Social Networking Sites (SNSs) used by the students.

YouTube was the most frequently used SNS by the students for learning science. Applications that are based on educational purposes like Byju, Unacademy were also found to be in use by the students. Facebook, Whatsapp, Telegram, Twitter were also reported to be used for learning science.

Table-3: (SNSs) used by the students for learning science

SNSs	of students using it	Frequency
YouTube	80	53.3%
WhatsApp	5	3.3%
Telegram	1	0.6%

Vedantu	2	1.3%
Zoom	3	3.3%
Unacademy	3	3.3%
Byjus	6	4%
MyCBSEguide	3	3.3%
Topper	3	3.3%
Instagram	7	4.6%
Twitter	2	1.3%
Quora	1	0.6%
Facebook	3	3.3%
Brainly	2	1.3%
Wikipedia	2	1.3%
Google	6	4%
Doubtnut	1	0.6%

Objective-2: To explore the role of SNS in learning science

81.1 percent of the students used social media platforms for learning science. Except for 3.5 percent, 80.6 percent of the students found learning science from the social media platform interesting while 16 percent of them were unsure. 70.7 percent of the students also reported that using social media in learning science increases the interest as well as the attention of students toward the subject. 62.5 percent of the students reported the effectiveness of learning science from social media platforms, while 9.7 percent do not feel its effectiveness. The students reported that 40.3 percent of the science teachers used social media platforms for teaching, 37.5 percent used it sometimes and 22.2 percent never used social media platforms for science teaching.

Except for 4.9 percent of the students, other students agreed that social media could be used as a learning platform for science. 80.5 percent of the students reported that social media helps to collaborate with other students for science learning. 86.8 percent of the students expressed that social media provides entertaining and mind stimulating activities for learning science which makes learning joyful and interesting. 88.9 percent of the students stated that social media if used creatively could be used very successfully in learning science. 68.8 percent of the students ascertained that social media could be used as a tool for learning sciences by linking it to real-life situations. 77.7 percent of the students felt that social media provides a platform for the students to interact with experts in sciences. 59.2 percent of the students stated that social media plays an important role in nurturing learners' instinctive curiosity and encouraging the spirit of inquiry. 83.9 percent of the students reported that social media supports various learning styles and through social media, a learner can learn at their own pace.

80.5 percent of the students reported that plenty of learning materials for science subjects are available on social media platforms. It makes them independent learners and can learn anytime from anywhere.

Objective-3: To study the challenges and drawbacks of using SNS in learning science

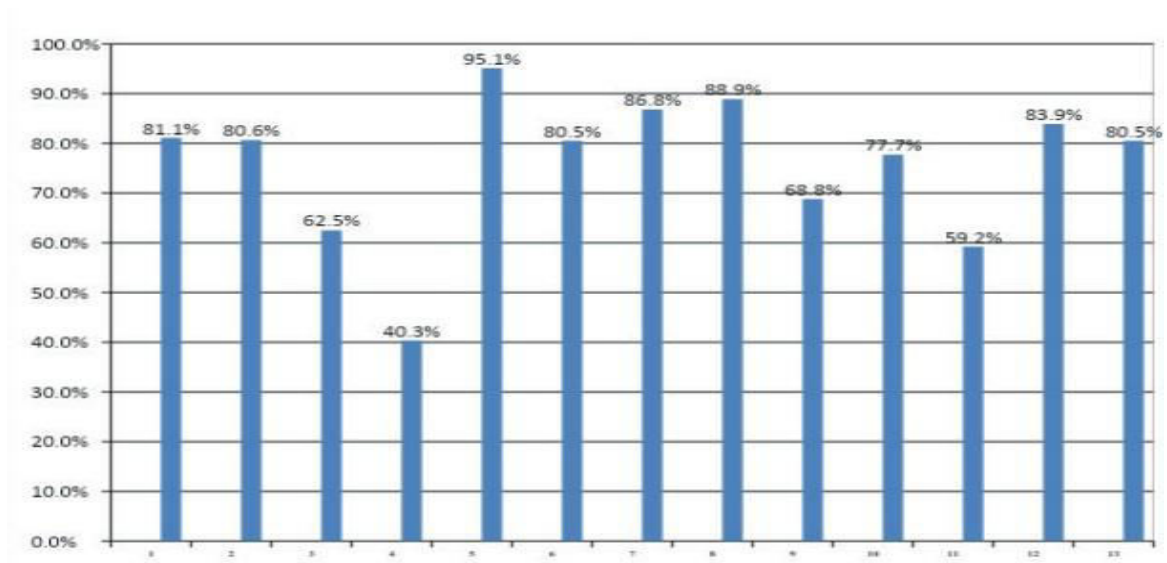
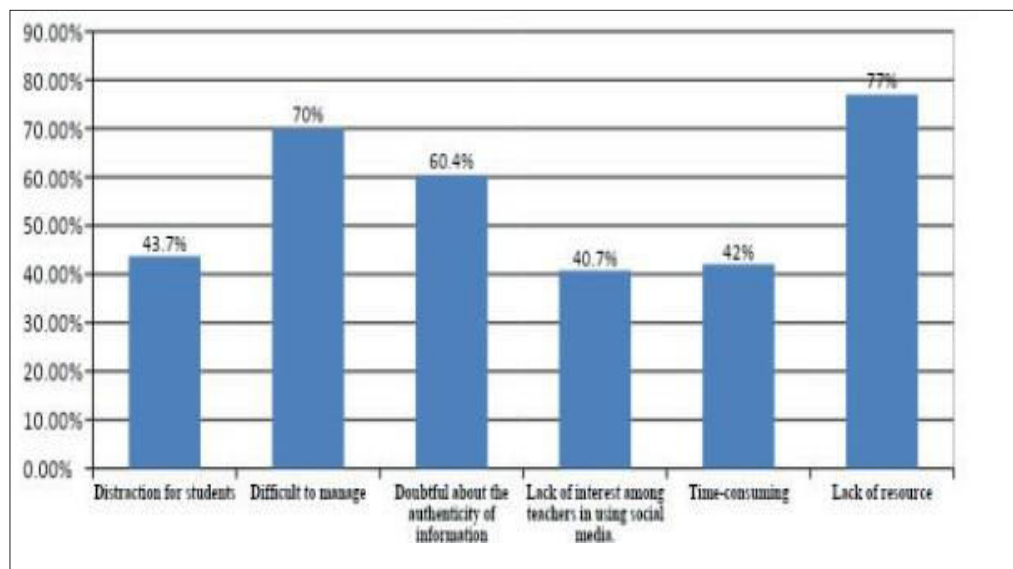
43.7 percent of the students reported that social media could be a great distraction for students. It could distract the students from learning and sometimes end up in social media addiction. Moreover, 70 percent of the students opined that social media is not easy for all students to manage for educational purposes.

60.4 percent of the students were not sure if social media provides authentic information. The content that is disseminated and the learning material that are made available online can be deceiving at times.

40.7 percent of the students expressed that there is a lack of interest among teachers in using social media. Because of this, social media usage could be restricted in classrooms and schools.

42 percent of the students felt that learning through social media is time-consuming as it requires a lot of searching and filtering the information. 77 percent of the students stated that social media could be restricted in the learning process if proper resources in the form of smartphones, PCs, internet connection, etc. are not available to the students as well as the teachers.

Graph-2: Challenges and drawbacks of using SNS in learning science



Discussions

According to the findings, the majority of students (65.7 percent) own mobile phones and have 97.9 percent internet access, highlighting the importance of the internet and smart phones in everyone's lives. Zachos et al. (2018) and Lenhart (2015) agree with the study's findings. The study found YouTube to be the most popular social media platform among students, contrary to the findings of Alabdulkareem (2014), Tess (2013), and Sánchez (2014), who found WhatsApp and Facebook to be the most popular media networks, respectively. WhatsApp was proven to be quite successful in increasing teacher and student involvement by Khatun and Al-Dhlan (2017). The study also demonstrates the importance of social media in the classroom. Gray et al. (2013) discovered a similar result in their study. It was confirmed that using social media to collaborate with other students for science learning and interaction is beneficial, which is consistent with Dragseth's (2019) and Wilson and Boldeman's (2012) findings. The study reveals 40.3 percent of science teachers use social media platforms for teaching. It may be due to a lack of resources in educational institutions or a lack of technical knowledge on the part of the teachers. Platforms on social media offer engaging and mind-stimulating activities for studying science, which not only makes learning enjoyable and interesting but also draws the attention of young students. According to the study, social media plays an important role in education and learning. When utilized creatively and efficiently, it promotes learning. This conclusion is consistent with the findings of Alabdulkareem (2015), who observed that instructors and students are enthusiastic about utilizing social media in the classroom, believing that it will enhance their learning experiences. However, the study discovered significant drawbacks to adopting social media as a learning tool. Some of the limitations highlighted in the study, similar to Hussain et al. (2018) were social media addiction owing to frequent use, doubtful information on social media, and a lack of suitable learning materials.

Conclusions

The findings of the study revealed that various information regarding the role of social media in the educational process of learning science. It was found that social media plays an important role in the teaching-learning process. Social media when used creatively and mindfully could be very beneficial to the students as well as the teachers. Several disadvantages of using social media were also identified. It is the responsibility of the teachers and the parents to monitor the usage of SNSs by the students. Digital education should be imparted to students from a very young age. They should be kept aware of the benefits and drawbacks of using social media at all times.

To guide and protect them from cyberbullies and cybercriminals, appropriate information should be disseminated at the appropriate time, and in the appropriate direction. Along with the students, the teachers, and the educators should also upskill themselves with new technology. Learning, when integrated with technology, is more interesting and much more impactful.

Reference

- Alabdulkareem, S.A. (2015). *Exploring the Use and the Impact of Social Media on Teaching and Learning Science in Saudi*. *Procedia Social and Behavioral Sciences*, 182, 213-224, <https://doi.org/10.1016/j.sbspro.2015.04.758>.
- AlHashimi, S., AlMuwali, A., Zaki, Y. & Mahdi, N. (2019). *The Effectiveness of Social Media and Multimedia-Based Pedagogy in Enhancing Creativity among Art, Design, and Digital Media Students*. *International Journal of Emerging Technologies in Learning*, 14(21), 176-190.
- AlMomani, M.A.M. (2020). *The Effectiveness of Social Media Application "Telegram Messenger" in Improving Students' Reading Skills: A Case Study of EFL Learners at Ajloun University College/Jordan*. *Journal of Language Teaching and Research*, 11(3), 373-378. <http://dx.doi.org/10.17507/jltr.1103.05>
- Akif, H.M., Serhan, C.H., & Erkan, U.M. (2020). *Determining the views of the secondary school science teachers about the use of social media in education*. *Journal of Science Education and Technology*, 29(3), 346-354
- Alabdulkareem, A.S. (2015). *Exploring the use and the impacts of social media on teaching and learning science in Saudi*. *Procedia-Social and Behavioral Sciences*, 182, 213-224
- Ansari, J.A.N., Khan, N.A. (2020). *Exploring the role of social media in collaborative learning the new domain of learning*. *Smart Learning Environment*, 7(9). <https://doi.org/10.1186/s40561-020-00118-7>
- Balalle, H. (2018). *The impact of social media on the student achievement*. *International Journal of Advanced Research, Ideas and Innovations in Technology*, 4(4), 427-429.
- Bassell, K. (2010). *Social media and the implications for nursing faculty mentoring: A review of the literature*. *Teaching and Learning in Nursing*, 5(4), 143-148.
Doi: 10.1016/j.teln.2010.07.007
- Clement, J. (2020). *Most popular social networks worldwide as of January 2020, ranked by number of active users*. Retrieved from <https://www.statista.com/statistics/272014/global-social-networks-ranked->

by-number-of-users

Choi,D.H.,&Noh,G.Y.(2019).Theinfluenceofsocialmediauseonattitudetowardsuicidethroughpsychologicalwell-being,socialisolation,andsocialsupport.*Information,Communication&Society*.Doi:10.1080/1369118X.2019.1574860

Dabbagh,N.,&Reo,R.(2011).Backtothefuture:Tracingtherootsandlearningaffordancesof social software. *Web 2.0-based e-learning: Applying social informatics for tertiaryteaching*.Hershey, PA:Information Science Reference.

Dragseth,M.R.(2019).Buildingstudentengagementthroughsocialmedia.*JournalofPoliticalScienceEducation*,1–14.Doi: 10.1080/15512169.2018.1550421

Ellis, J. B. & Abreu-Ellis, C. R. (2015). *Student perspectives of social networking use in highereducation*.KeyconceptsInInformaticsandICT.Potsdam,Germany:UniversityofPotsdam.

Fatimawati,S., Mursalin, & Odja,A.H.(2019).The effectiveness of learning using social media toimprove student's communication skills in fluids' topics. *Journal of Physics: ConferenceSeries*,1521.doi:10.1088/1742-6596/1521/2/022062

Framework & guidelines for use of social media for government organisations. department ofelectronics and information technology.Ministry of Communications & InformationTechnology.GovernmentofIndia

Fiona, A &Ingo. E. (2018). Using internet and social media designs to contextualise scienceinquirylearning.*SchoolScienceReview*,99(369),90-95

Grace E, Raghavendra P, Newman L, Wood D, Connell T. *Learning to use the Internet andonlinesocialmedia: Whatistheeffectivenessofhome-*

basedinterventionforyouthwithcomplexcommunicationneeds?ChildLanguageTeachingandTherapy.2014;30(2):141-157. doi:10.1177/0265659013518565).

Gray, R.; Vitak, J.; Easton, E.W.; Ellison, N.(2013). Examining social adjustment to college inthe age of social media: Factors influencing successful transitions and persistence. *ComputerEducation*,67,193–207.

Greenhow, C., & Lewin, C. (2016). *Social media and education: Reconceptualizing theboundariesofformalandinformallearning*.*Learning,mediaandtechnology*,41(1),6-30.

Doi:10.1080/17439884.2015.1064954

Goodyear,V.A.,Parker,M.,&Casey,A.(2019).Socialmediaandteacherprofessionallearningcommunities.*PhysicalEducationandSportPedagogy*,1–13.

Doi:10.1080/17408989.2019.1617263

Istifci,I.&DoganUcar,A.(2021).AReviewofresearchontheuseofsocialmediainlanguagelearning.*JournalofEducationalTechnologyandOnlineLearning*,4(3),475-488.

Joan,R.R.(2020).Influence of social mediain the progress of learning.i-manager's school.

EducationalTechnology,16(2),31-38.

Kaplan,A.M.,&Haenlein,M.(2010).Usersoftheworld,unite!Thechallengesandopportunitiesofsocialmedia.*Businesshorizons*,53(1),59-68.

Khatun,A&Al-Dhlan,K.A.(2017).EffectivenessofWhatsApp:ASocialMediaToolforStudent'sActivities in Saudi Arabia. *International Journal of Technology and EducationalMarketing*,7(2).DOI:10.4018/IJTEM.2017070102

Lenhart,A.(2015).Teens, socialmediaand technologyoverview. PEWResearch Center.Retrievedfrom<http://www.pewinternet.org/2015/04/09/teens-social-media-technology-2015/>

MinistryofHumanResourceDevelopment(MHRD).NationalEducationPolicy2020.GovernmentofIndia.

Mpungose, C.B. (2020). Are social media sites a platform for formal or informal learning?students' experiences in institutions of higher education. *International Journal of HigherEducation*,9(5)

Mpungose,C.B.(2020).IsMoodleaplatformtodecolonisetheuniversitycurriculum?Lecturers' reflections.*AfricaEducation Review*,1,1-16.Doi:10.1007/s10639-019-10005-5

Nicholas,R.(2019).Beyondthemiddleschoolscienceclassroom:Usingsocialmediatoconnecttheindigenousskystoriescommunity.*TeachingScience*,65(2),38-47

Oberst, U., Wegmann, E., Stodt, B., Brand, M., & Chamarro, A. (2017). Negative consequencesfrom heavy social networking in adolescents: The mediating role of fear of missing out.*JournalofAdolescence*,55, 51–60.Doi:10.1016/j.adolescence.2016.12.008

Rajasekhar,S.,&Jaishree, S. (2020). An Exploratory Study on Internet use and its Application byUnderprivileged School Girls. *Indian Journalof Educational Technology*, 2 (1),1-20.

Sahrain, S. P., Mursalin ., & Odja ,A.H.(2020).The effectiveness of learning using social media toimprove student's communication skills in waves topics. *Journal ofPhysics: Conference.Series*.

Sánchez,A.R.,Cortijo,V.,Javed,U.(2014).Students'perceptionsofFacebookforacademicpurposes.*ComputerEducation*, 70,138–149.

Selwyn,N.(2012).Socialmediainhighereducation.*TheEuropaworldoflearning*,1(3),1-10.

Selwyn,N.(2016).Mindingourlanguage:Whyeducationandtechnologyisfullofbullshitandwhatmightbedoneaboutit.London:Taylor&Francis.

Doi:10.1080/17439884.2015.1012523

Tyler, T., & Vanstone, E. (2017). *Bridging the gap--*

Using social media to bring together science and families. Primary Science, 149, 21-23

Varish & Sharma, D. (2020). *Landscape of social networking sites in schools: An administrative perspective. Indian Journal of Educational Technology, 2(2), 29-40*

Wilson, K. L., & Boldeman, S. U. (2012). *Exploring ICT integration as a tool to engage young people at a flexible learning centre. Journal of Science Education and Technology, 21, 661-668.*