

# Impact of Social Media Platforms on the Academic Performance of BSED-Math students in Jose Rizal Memorial State University, Dipolog Campus

**RAYA L. BALANAY**

Jose Rizal Memorial State University, Dipolog Campus  
rayalumantabalanay@gmail.com

**MARLOU A. JUMALON**

Jose Rizal Memorial State University, Dipolog Campus

**ELSIE P. SANDUETA**

Jose Rizal Memorial State University, Dipolog Campus

*Abstract* — This study aimed to determine the impact of social media platforms on the academic performance of BSED-Math students at Jose Rizal Memorial State University (JRMSU), Dipolog campus, first term of the academic year 2021-2022. The researchers used the purposive sampling and descriptive-survey method under the quantitative research. They used a standardized research instrument and data collected through Google forms. Data correlation was done using the Pearson's correlation factor and Chi-Square Test. The result of the study showed that there was a significant correlation between the usages of social media sites in the academic and the academic performance of the students. There was also a significant correlation between the social media platforms used for academic purposes. Lastly, there was no significant difference between year level and sex towards the impact of social media platforms. Thus, it was concluded that social media platforms have a positive impact on the academic performance of students.

*Keywords* — *Social media platforms, virtual tolerance, virtual communication, virtual problem, virtual information, academic performance.*

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## I. Introduction

Social media platforms are a group of internet-based in which its application was used by several individuals to communicate with everyone. It will able to enhance one's ability to make, share, and upload information efficiently to a wide range of audiences. Hence, these social media platforms can be used with the support of technologies such as computers, desktops, laptops, tablets, and smartphones. Thus, some of the social media platforms are Facebook, YouTube, WhatsApp, Instagram, Twitter, Tumblr, Wikipedia, and Snapchat.

Most of the social media used were WhatsApp and YouTube (Bhandarkar et.al., 2021). WhatsApp was being used to communicate, create, share information, and make feedback among friends for academic purposes while YouTube gives free information about education, instructional videos, and tutorial in medical education (Bhandarkar et.al., 2021). In this case, these

social media platforms will be used to establish efficient learning, particularly in mathematics specialized subjects such as Calculus, trigonometry, algebra, number theory, calculus with analytic geometry, mathematics investment, and linear algebra among the students who take up Bachelor of secondary education (BSED) major in Mathematics.

On the other hand, due to the pandemic all of the students able to experience huge adjustment in the new mode of learning specifically the students who take up Bachelor of secondary education (BSED) major in Mathematics in Jose Rizal Memorial State University, Dipolog campus because all of the students choose modular learning due to their connectivity and they're doing a self-learning to their modules. So, social media platforms have a huge help for them to answers the given activities and assessments. Thus, using social media platforms has a positive impact to students' academic performance where it is supported by (Pinili & Ridad, 2018) that social media used has a fundamental contribution to the improvement of the grades of student if they'll used it responsibly. Similarly, Hicana & Gannabahan, (2013) asserts that if social media platforms will be use in a teaching-learning process, there should always be a boundary or parameter because it can cause distractions and divert student's attention due to entertainment content of different social media platforms. Nonetheless, the objective of the study is to determine the impact of social media platforms in terms of virtual tolerance, virtual communication, virtual problem, and virtual information on the academic performance among the students who take up a Bachelor of secondary education major in Mathematics in Jose Rizal Memorial State University, Dipolog campus using a standardized questionnaire.

### **Literature Review**

Social media serves as a bridge between people all over the world, allowing for effective communication (Edutopia, 2017). Social media platforms act as a networking medium between students and teachers, allowing them to efficiently exchange details (Oueder & Abousaber, 2019). Some websites that can cater for chats are Facebook, Messenger, Viber, and WhatsApp. Facebook is a medium for learning (Mena et al., 2012) noting that (Toker & Baturay, 2019) says that Facebook makes it easier to publish, upload, and replace photos, audio, and visual materials, and links.

Hence, a Facebook page or group set up for a student's course may be used as a source of knowledge for tests, assessments, quizzes, or discussions in any way (Akcaoglu, 2014). There was a weak but positive correlation between Facebook use and general weighted average (GWA), which suggests that using Facebook more frequently is linked to higher academic achievement for a reason that majority of students used Facebook to keep up with class activities and collaborate with other students on assignments and other school-related tasks (Carreon, A.V., Valenzuela, M.M, Tayag, J.R., & Dizon, C.S., 2019).. Moreover, Chtouki et.al. (2012) discovered that watching YouTube videos encouraged students to search for similar videos and to develop a habit of utilizing YouTube as a learning tool. The only difficulty is determining the content's dependability; as a result, content selection must be done by the instructor. Finally,

YouTube videos have been a valuable source of instructional materials; it is a free web-based tool with a significant impact on student performance based on their research. YouTube videos have been used by educators in various disciplines, such as nursing, and have been shown to be an excellent tool for improving student learning and engagement.

Furthermore, educators can also quickly find and study videos linked to a specific idea or expertise, and then share the link with students. The videos were obtained in our case utilizing the RealPlayer plugin, which allowed us to download any video streaming content from the internet. Also, students use social media platforms like YouTube, which has millions of educational videos that assist students to widen their horizons while also developing a variety of other skills and capabilities. If students come across some interesting and educational movies connected to their studies, they can share them with friends or classmates who would benefit from watching them (Gorhe, 2019).

Social media platforms in general have positive and negative repercussions, yet many students can regularly use these sites (Hasnain et. al., 2015). For the positive social media platform, technologies have therefore identified that play an essential role in facilitating student social interactions, collaboration, and deliberation (Zavattaro, S., & Bryer, T., 2016). In the same way, Mensah (2016) describes it as a group of internet-based applications that enables user-generated content to be created and exchanged. Social media platforms somehow constitute technological, interactive, and user-generated content (Omanchonu & Akanya, 2019).

According to Bhandarkar et.al. (2021) in their study entitled “the impact of social media on academic performance of undergraduate medical student”. The objective of their research is to find the correlation between academic performance and social media use. This study used a cross-sectional questionnaire and have 400 medical students participated in the study. The study revealed that the duration of social media use is up to 3h per day. WhatsApp and YouTube were commonly used by medical students. Social media is mainly used to read health-related news. Also, female students have better academic performance than male students. Thus, social media was mostly used by students with low academic performance than high performing students. Also, there is a weak negative correlation between academic performance and social media use and a strong positive correlation between social media usage and the social media addiction score. Therefore, social media platforms have a negative impact on students’ academic performance among undergraduate medical students.

Also, Biton and Segal (2021) in their study which they focused on the social media platforms that can enhance collaborative activities in the teaching-learning process. Certainly, they specify Facebook as their platform that can be used to develop high school students’ way of studying in the preparation for their examinations in mathematics. Thus, his findings suggest that social media platforms such as Facebook are helpful to provide effective and efficient learning modes as well as teaching opportunities in mathematics. Indeed, students can benefit from Facebook where it can help them in the aspect of peer evaluation, allowing them to get involved

in the virtual community in a way that questions and solutions are everywhere, and enhancing their critical thinking in mathematics as well as their creativity. Therefore, Facebook can provide and help students to gain more knowledge in mathematics.

Furthermore, Omanchonu and Akanya (2019) in their study aimed to determine the effect of social media platforms on the students of the Department of Education at the University of Kogi State in Anyigba. They used the theory of time displacement and in the research area, there are 400 students over the four years. Therefore, the results of the study are that most students use social media platforms, which takes a great deal of time to displace their study time. Based on this conclusion, the document recommends that universities develop strategies in which students can use social media platforms to use academia rather than other uses that negatively affect their studies.

According to Gorhe (2019), social media platforms have a two-way effect on students' academic achievement. This means that, when used wisely and carefully, social media platforms can help students improve their academic performance, yet when used carelessly and without awareness, they can harm students' overall academic performance, putting their future at risk. Students must exercise restraint when using social media. They should be made fully aware of the distinction between the actual world and the virtual world that they have constructed via the use of social media. Students should understand that the virtual world of social media will not help them establish a successful future, but that high academic performance will. As a result, if used constructively for goals such as learning or sharing information online, social media can be a beneficial tool for students. Excessive usage of social media for social networking or amusement, on the other hand, might have a significant negative impact on their academic achievement. This will assist students in being more focused and accountable in their academics.

Therefore, the study revealed the positive and negative impact of social media platforms on students' academic performance. The social media platform is mainly used for collaboration, entertainment, and communication. A previous study has also shown that the use of social media platforms is not affected by gender as well as the number of hours they spend on it. Consequently, social media platforms must be adequately managed in order to be effective for academic purposes. The aim of this research was to investigate impact of social media platforms to the academic performance of the students in Mathematics.

## **II. Methodology**

This research used a descriptive-survey method under the quantitative research. The purposive sampling technique was also used where researchers get only a sample of every year level of BSED-Math students that are enrolled in the first term of the year 2021-2022 in Jose Rizal Memorial State University, Dipolog Campus with regards to their academic performance. The researcher used an adapted survey questionnaire. The adapted survey questionnaire was being

validated with the previous literature and selected attributes for the study questionnaire on the research “The impact of social media on the academic performance of the undergraduate medical students authored by Bhandarkar, A., Pandey A., Nayak R., Pujary K., & Kumar A., (2021). The questionnaire was based on the objective of the research study. The questionnaire consisted of the following categories; (1) the demographic profile including the gender and year level of the respondents (2) Academic performance of the respondents specifying the General weighted average of the major subject only, (3) social media platforms usually used in a typical day (4) purposes of social media platforms in academic, (5) duration in using social media platforms, and (6) impact of social media platforms. Also, the students will answer the items of item 6 on a five-point Likert scale with 1 being “strongly disagree” and 5 being “strongly agree”. Hence, the impact social media platforms scale is a validated psychometric measuring scale containing 29 items related to four domains (virtual tolerance, 5 items, virtual communication, 9 items, virtual problem, 9 items, and virtual information, 6 items) (Sahin C.,2018).

Before distributing the instrument, the questionnaire was still checked and verified by the researchers’ research adviser and subject teacher to assure the efficiency of the instrument though they used a standardized questionnaire. The instrument was checked by the adviser not only in content but also the grammar usage. The validated and corrected instrument was fielded to the identified respondents. Ethical approval was obtained and the consent of adviser, associate dean, and respondents was obtained. The participant was informed the purpose of the survey and secure the anonymity and confidentiality to the respondents. The distribution of BSED-Math students was shown on table 1 below.

**Table 1. The sample respondents of BSED-Math students in JRMSU-Dipolog Campus.**

Year Level	No. of Students	No. of Respondents
1 <sup>st</sup>	37	26
2 <sup>nd</sup>	25	23
3 <sup>rd</sup>	26	23
4 <sup>th</sup>	32	23
Total	120	95

The researchers asked for the number of students per year level who enrolled in school year 2021-2022. Then asked permission to the dean of the college of education to conduct a survey. And researchers created a group chat and added student respondent to the group. The data collection is consisting of surveys (questionnaires) through distance survey or virtual survey where researchers make questionnaire in a google form. It was distributed through tracking the respondents using their Facebook accounts and send it by their group chat in order to have a quick response among all Bachelor of secondary education major in Mathematics.

### Statistical treatment

The Statistical tool used by the researchers were Frequency Count and Percentage computation was used to determine the profile of the respondents. This was also used to determine

the social media platforms used by the BSED-Math students of JRMSU-Dipolog Campus, duration of using social media sites and the purpose of using social media in academic. The weighted mean was used to determine the impact of social media platforms to the BSED-Math student as well as in determining the academic performance of the BSED-Math students. The correlation was measured between the usages of social media platforms and the academic performance of the BSED-Math students using Pearson's correlation coefficient. The chi – square test was used to determine the relationship between the impact of social media platforms and the academic performance of the BSED-Math Students. This was also used to determine the significant difference between the profile of the respondents and impact of social media platforms to the BSED-Math students.

### III. Results and Discussion

#### Demographics

There were 25 (26% ) of male and 70 (74%) of female were part of the study. It has been represented on table 2.

**Table 2 Profile of the Respondents in Terms of Sex**

Sex	Frequency	Percentage
Male	25	26 %
Female	70	74 %
Total	95	100 %

The participants of every year level of BSED-Math students has been shown in table 3..

**Table 3 Profile of the Respondents in Terms of Year Level**

Year Level	Frequency	Percentage
1 <sup>st</sup> Year	26	27 %
2 <sup>nd</sup> Year	23	24 %
3 <sup>rd</sup> Year	23	24 %
4 <sup>th</sup> Year	23	24 %
Total	95	100 %

#### Social media used

It can be observed on table 4 that the social media platforms used most commonly were Facebook (98%), YouTube (68%), Google plus (34%), Instagram (27%), Snapchat (17%), Twitter (9%) and TikTok (9%). On the other hand, the social media platforms that are rarely used by the BSED-Math students were Impartus Lecture capture (0%), Discord (1%), Telegram (1%), Wikis (2%), WhatsApp (3%), and Blogs and forums (3%). Thus, majority of the respondents used Facebook.

**Table 4 Social Media Platforms Used by the BSED-Math Students of JRMSU-Dipolog Campus**

Social Media Platforms	Frequency	Percentage	Rank
Facebook	93	98 %	1
Youtube	65	68 %	2
Twitter	9	9 %	
Whatsapp	3	3 %	
Impartus Lecture Capture	0	0 %	
Instagram	26	27 %	4
Wikis	2	2 %	
Google Plus	32	34 %	3
Blogs and Forms	3	3 %	
Snapchat	16	17 %	5
Tiktok	9	9 %	
Discord	1	1 %	
Telegram	1	1 %	

### Academic performance

Most of the BSED-Math students have a general weighted average ranging 1.6-2.0 with the frequency of fifty-five (55) out of ninety-five (95). On contrary, there are only two (2) out of ninety-five (95) of the students having grades ranging 2.6-3.0. Generally, General weighted average of BSED-MATH students has a mean of 1.79 and interpreted as good. Therefore, BSED-Math student's academic performance was average and it needs improvement due to the new mode of learning and their attitude towards the subject as well their tolerance in using social media platforms which could divert their attention in studying. This finding is supported by the study conducted by Michael, Jacinto, Simoune, & Molina (2021) that which showed that it depends upon the students on how they will handle the usage of social media platforms and their tolerance can affect their academic performance in mathematics either in a productive or unproductive way. As well as Mazana, Montero, and Casmir, (2019) revealed that students had a positive attitude toward mathematics but as they go on to a higher level of education their attitude becomes less positive and student's failure in the examination is due to teachers' didactic strategies, instructional materials, poor learning and examination strategies, and failure to understand instructions.

**Table 5 Academic Performance of the Respondents**

General Average	Weighted	Frequency(f)	Midpoint (m)	fm	Mean
1.1 – 1.5		22	1.30	28.6	1.79
1.6 – 2.0		55	1.80	99	
2.1 – 2.5		16	2.30	36.8	
2.6 – 3.0		2	2.80	5.6	
Total		N = 95		170	<i>Good</i>

### Duration of social media used

The duration of using social media platforms by the respondents has been depicted on table 6. Majority of the respondents spend social media platforms between 1-3 hours with a frequency of 41 (43%). However, there are 9 (9%) of the respondents spend less than 1 hour on social media platforms. Therefore, the student's duration of social media platforms was 1-3 hours per day which is supported by the study of Bhandarkar et.al. (2021), which revealed that the duration of social media used is up to 3h per day. As well as the study made by Larson (2015) has revealed that students use social media platforms for 30 minutes to three (3) hours a day.

**Table 6 Duration of Using Social Media Platforms**

Duration	Frequency	Percentage
Less than 1 hour	9	9 %
1 – 3 hours	41	43 %
4 – 6 hours	28	29 %
More than 7 hours	17	18 %
Total	95	100 %

### Purpose of Media Platforms in Academic

Purpose of Social Media Platforms in academic has been depicted in Table 4 that majority of BSED-MATH students used social media platforms in academic purposes is for doing research(87%). Hence, social media platforms are rarely used for seminar preparation (18%). Thus, social media platforms were used for research since it is more accessible and students can acquire efficient information about mathematics. It is easier for them to consult confusing information in the given activity or assessment on social media than to depend only on the modules given by the instructor. This finding is opposite to the study of Grossecket et. al. (2011) that is the majority of students who spend time on social networking websites or SNSs, particularly Facebook, do so for social reasons, for example by contacting friends and family, as well as for sharing images and violinists. However, they have only limited time to devote themselves to social media platforms to study, learning an academic objective.



**Table 7 Purpose of Using Social Media Platforms in Academic**

Purpose	Frequency	Percentage	Rank
Health related news	32	34 %	4
Research	83	87 %	1
Seminar preparation	17	18 %	5
Test preparation	47	49 %	3
Assignments	68	72 %	2

## Impact of social media platforms

### *Virtual tolerance*

The Impact of Social Media Platforms on BSED-Math Students in Terms of Virtual Tolerance was represented on table 8. It can be observed that the impact of social media platforms on the BSED-Math Students in terms of Virtual Tolerance had the highest mean of 3.95 that is I look for internet connectivity everywhere to go on social media and described as Agree. On contrary, a life without social media becomes meaningless for me has the lowest mean of 2.92, and describe as neither agree nor disagree. This means that students look for connectivity for them to be online so that they will become updated with the announcement about their studies as well as to entertain their selves and they perceived neutral about without social media makes life meaningless. Thus, the social media platforms has a positive impact in terms of virtual tolerance because all actions of the students are dependent on social media platforms and rely on social media platforms to get informed academically however this could divert student's attention that is not academically related. This finding is similar to Gedik & Cosar (2020) study that social media platforms are tools that makes information and news easy to get, however, they can cause addiction, and are not suited for kids as well as by Hopkin, (2020) that the social media platforms can often distract and disregard academia, lack control of inadequate content and rely on social media for all contacts.

**Table 8 Impact of Social Media Platforms to the BSED-Math Students in Terms of Virtual Tolerance**

Statements	WM	Description
I am eager to go on social media.	3.92	Agree
I look for internet connectivity everywhere so as to go on social media.	3.95	Agree
Going on social media is the first thing I do when I wake up in the morning.	3.37	Neither Agree nor Disagree
I see social media as an escape from the real world.	3.39	Neither Agree nor Disagree
A life without social media becomes meaningless for me.	2.92	Neither Agree nor Disagree
Average Weighted Mean	3.51	Agree

### *Virtual communication*

The Impact of Social Media Platforms to the BSED-Math students in terms of Virtual Communication was represented in table 9. The impact of social media platforms to the BSED-Math students in terms of Virtual Communication that item 7 had the highest mean of 3.84 that is I want to spend time on social media when I am alone and described as agree. However, Item 2 has the lowest mean of 2.43 that is I prefer the friendships on social media to the friendships in the real life and describe as disagree. This means that students prefer to used social media when they are alone and able to socialize yet they are more prefer the friendship on real-life. Thus, the average weighted mean of 3.03 describe as neither agree or disagree which is interpreted as Neutral. This implies that virtual communication has a less impact to the students since they are more prefer on friendship on real life than virtual friends then preferably used social media platforms when they are alone because it can affect the interpersonal communication of one other hence they use social media platforms for academic in connecting to the instructor and classmates. This finding is supported by Ansari & Khan (2020) where the study found that interaction with peers, teachers, and online knowledge sharing behavior were significantly impacted by the usage of online social media for collaborative learning.

**Table 9 Impact of Social Media Platforms to the BSED-Math Students in Terms of Virtual Communication**

Statements	WM	Description
I prefer to use social media even there are somebody around me.	3.21	Neither Agree nor Disagree
I prefer the friendships on social media to the friendships in the real life.	2.43	Disagree
I express myself better to the people with whom I get in contact on social media	2.92	Neither Agree nor Disagree
I am as I want to seem on social media.	2.97	Neither Agree nor Disagree
I usually prefer to communicate with people via social media.	3.40	Neither Agree nor Disagree
Even my family frown upon, I cannot give up using social media.	2.53	Disagree
I want to spend time on social media when I am alone.	3.84	Agree
I prefer virtual communication on social media to going out.	2.92	Neither Agree nor Disagree
Social media activities lay hold on my everyday life.	3.03	Neither Agree nor Disagree
Average Weighted Mean	3.03	Neither Agree nor Disagree

### *Virtual Problem*

The Impact of Social Media Platforms to the BSED-Math students in terms of virtual problem was represented on table 10. The students perceived that they did not agree nor disagree

with the idea that social media has brought them some excitements and their productivity have been affected. Hence, it is their obligation to manage their spending time in social media platforms. The average weighted mean of 2.86 describes as neither agree nor disagree. This implies that the impact of social media platforms in terms of virtual problem is neutral because social media platforms has less impact among the students since they are aware about the positive and impact of using social media platforms. This finding is supported by the study of Gorhe (2019) that when used wisely and carefully, social media platforms can help students improve their academic performance, yet when used carelessly and without awareness, it can harm students' overall academic performance, putting their future at risk. Students must exercise restraint when using social media. They should be made fully aware of the distinction between the actual world and the virtual world that they have constructed via the use of social media. Students should understand that the virtual world of social media had no help to establish a successful future, but that high academic performance will.

**Table 10 Impact of Social Media Platforms to the BSED-Math Students in Terms of Virtual Problem**

Statements	WM	Description
I pass over my homework because I spend much time on social media.	2.93	Neither Agree nor Disagree
I feel bad if I am obliged to decrease the time I spend on social media.	2.58	Disagree
I feel unhappy when I am not on social media.	2.65	Neither Agree nor Disagree
Being on social media excites me.	3.17	Neither Agree nor Disagree
I use social media so frequently that I fall afoul of my family.	2.57	Disagree
The mysterious world of social media always captivates me.	2.99	Neither Agree nor Disagree
I do not even notice that I am hungry and thirsty when I am on social media.	2.78	Neither Agree nor Disagree
I notice that my productivity has diminished due to social media.	3.17	Neither Agree nor Disagree
I have physical problems because of social media use.	2.88	Neither Agree nor Disagree
Average Weighted Mean	2.86	Neither Agree nor Disagree

### ***Virtual Information***

The Impact of Social Media Platforms to the BSED-Math students in terms of virtual information has been represented on table 11. It can be observed that item 5 has the highest mean of 4.11 that is keeping informed about the things related to my courses (e.g., homework, activities) makes me always stay on social media and describe as Agree. On contrary, item 1 has the lowest

mean of 2.97 that is I use social media even when walking on the road in order to be instantly informed about developments and describes as Neither Agree nor Disagree. Thus, the average weighted mean of 3.53 describes as agree which implies that social media has a positive impact in terms of virtual information towards the BSED-Math students particularly in this new mode of learning. Since, it serves as their medium in acquiring information in relation to their field.

This finding was supported by the study of Chtouki et.al. (2012) discovered that watching YouTube videos encouraged students to search for similar videos and to develop a habit of utilizing YouTube as a learning tool. The only difficulty is determining the content's dependability; as a result, content selection must be done by the instructor. Finally, YouTube videos have been a valuable source of instructional materials; it is a free web-based tool with a significant impact on student performance based on their research. Also, Biton and Segal (2021) study revealed that they focused on the social media platforms that can enhance collaborative activities in the teaching-learning process. Certainly, they specify Facebook as their platform that can be used to develop high school students' way of studying in the preparation for their examinations in Mathematics.

Nonetheless, his findings suggest that social media platforms such as Facebook are helpful to provide effective and efficient learning modes as well as teaching opportunities in Mathematics. Indeed, students can benefit from Facebook where it can help them in the aspect of peer evaluation, allowing them to get involve in the virtual community in a way that questions and solutions are everywhere, and enhancing their critical thinking in Mathematics as well as their creativity. Therefore, Facebook can provide and help students to gain more knowledge in Mathematics.

**Table 11 Impact of Social Media Platforms to the BSED-Math Students in Terms of Virtual Information**

Statements	WM	Description
I use social media even when walking on the road in order to be instantly informed about developments.	2.97	Neither Agree nor Disagree
I like using social media to keep informed about what happens.	3.87	Agree
I surf on social media to keep informed about what social media groups share.	3.52	Agree
I spend more time on social media to see some special announcements (e.g., birthdays).	3.51	Agree
Keeping informed about the things related to my courses (e.g., homework, activities) makes me always stay on social media.	4.11	Agree
I am always active on social media to be instantly informed about what my kith and kin share.	3.22	Neither Agree nor Disagree
Average Weighted Mean	3.53	Agree

### Usages of Social Media Platforms and the Academic Performance

Usages of social media platforms and academic performance demonstrated a significant relationship as shown in Table 12. It yields that social media platforms that are used for academic purposes can contribute a positive impact on the academic performance of the students in a way that they can use this as a learning tool and research information that can help them to learn and improve their performance in Mathematics. This finding was supported by the study of Biton and Segal (2021) who specify Facebook as their platform that can be used to develop high school students' way of studying the preparation for their examinations in Mathematics. Also, it is similar to the study of Azizi, Soroush, & Khantony (2019) that the overall used of social networks and students' academic achievement were significantly and negatively correlated.

**Table 12 Test of Relationship between the Usages of Social Media Platforms and the Academic Performance of the BSED-Math Students**

Variables	Mean	SD	( $\alpha$ )	Computed R	p-value	Interpretation	Action
Usages of Social Media Platforms	49.4	26.6	0.05	0.5084	.00004	Significant relationship	H <sub>0</sub> was rejected
Academic Performance	2.06	22.1					

### Impact of Social Media Platforms and the Academic Performance

There was a significant relationship between the impact of social media platforms and academic performance among BSED-Math students as demonstrated in Table 13. Social media platforms have a positive impact on the academic performance of the student where they are dependent on particular social media platforms where they can acquire information that could help them to improve their academic performance. This finding was opposite to the study of Bhandarkar et.al. (2021) that there was a strong positive correlation between social media usage and the impact of social media platforms which has a negative impact on students' academic performance among undergraduate medical students.

**Table 13 Test of Relationship between the Impact of Social Media Platforms and the Academic Performance of the BSED-Math Students**

Factors Compared	Impact of Social Media Platforms				
	$\alpha$	$\chi^2$ critical -value	$\chi^2$ value	Interpretation	Action/ Decision
Academic Performance	$\alpha = 0.05$	9.488	12.5338	Significant relationship	$H_0$ was rejected

### Profile and Impact of Social Media Platforms

There was no significant difference between sex and the impact of social media platforms. There was no significant difference between year level and the impact of social media platforms among BSED-Math students. Thus, the impact of social media platforms did not differ in the sex and year level of the students. This was supported by Celestine and Nonyelum's (2018) study that the sex of a student does not affect their use of social media. However, the study of Hossain (2020) contradicts the finding that the use of Social Media platforms for YouTube and gender makes a significant difference. In addition, both men and women found that it has an impact on academic performance on social media platforms for academic purposes. Consequently, sex differs from the use of social media platforms.

**Table 14 Test of Difference between the Profile of the Respondents and Impact of Social Media Platforms to the BSED-Math Students**

Factors Compared	Impact of Social Media Platforms				
	A	$\chi^2$ critical - value	$\chi^2$ value	Interpretation	Action/ Decision
Sex	$\alpha = 0.05$	3.841	1.0615	No Significant Difference	$H_0$ was accepted
Year Level	$\alpha = 0.05$	16.919	5.7264	No Significant Difference	$H_0$ was accepted

### IV. Conclusion

Generally, the impact of social media platforms on the academic performance among BSED-students yielded a positive impact. This implies that social media platforms help to improve the productivity of BSED-Math students by using social media platforms in searching for the necessary information that can contribute to efficient learning in Mathematics. Technically, the students are indeed dependent on social media platforms due to the new mode of learning particularly modular learning hence there should always be a parameter or balance in using social media platforms in order not to affect the student's academic performance.

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