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Effectiveness of Social Media in Enhancing Individuals Higher Order Thinking Skills at the University Level In Khyber Pakhtunkhwa

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Abstract

The research was conducted to find out the effectiveness of social media in enhancing individual's higher order thinking skills at university level in Khyber Pakhtunkhwa, Pakistan. Objectives of the study were to identify the effectiveness of social media in enhancing individual's higher order thinking skills i.e. to analyze evaluate and create concepts. The nature of the study was quantitative. For data collection the researcher used a closed ended questionnaire. All the students/scholars of the public and private sector universities in Khyber Pakhtunkhwa constituted the population of the study. The researcher used a sample random technique for the selection of the sample. Sample of the study was consisted of four hundred students/scholars from five public, three private and two women sector universities in Khyber Pakhtunkhwa. Findings show that majority of the respondents were of the opinion that positive use of social media increase and develop the learner's higher order thinking skills i.e. analyzing ability, evaluating and creating power by using different modes of social media such as audio, video, lecture, map, diagram, demonstration, related films, books and news etc. According to the greatest number of participants Social media is indispensable for refining students' capacity to evaluate, explain, compare, categorize, and generate phenomena, different applications of social media allow people to choose, alter, and apply information in novel and constantly evolving contexts.

Keywords: Social Media, Conceptual Development, higher order thinking skills, Analyzing, Evaluating, and Creating.

Introduction

Background of the Study

Social media is a collection of digital technologies that allow people to: Create, share, and exchange ideas and information Connect with others in virtual communities and networks Interact with friends, family, and various communities Engage with user-generated content through likes, shares, comments, and discussion



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Purpose of Social media

Social media gives people a way to connect with their friends and family. Social media is used by some people to network, connect with people locally and globally, locate employment opportunities, discuss their interests, and share ideas, updates, and information. Some utilize it for education and learning, particularly college and university students who use social media to look for relevant study resources.

Communication: Staying in touch with friends and family, and communicating with people overseas

Education: Learning about various topics, attending live lectures, and becoming more socially aware

News: Keeping up with the latest happenings in the world

Entertainment: Showcasing talent for young artists

Employment: Finding opportunities for employment

Advertising: Promoting brands and connecting with consumers

Some examples of social media platforms

- Facebook: global main social network with 2.96 Billion MAU
- YouTube: A platform for sharing videos with 2.2 Billion MAU
- X: (Twitter) A platform for text-based microblogging, photo sharing, video sharing, and more
- Instagram: A platform for sharing photos and videos
- TikTok: A platform for sharing short videos
- WhatsApp a popular messaging app with 2 billion MAU

Mobile phones were introduced by social media, which led to a sharp rise in users. In "Mobile Social Networks and Social Practices," Humphreys (2007) noted that social network apps have recently or currently shifted from central processing units to mobile phones, incorporating web-based content and broadcasting connections and interactions. An additional advantage of the mobile phone is that it enables users to improve and fortify their social connections.

The impact that mobile phones have had on our everyday lives is astounding, as they have affected every facet of human existence. It serves a variety of functions, including networking and exchanging research and information (Hurt et al., 2012). Social media is important and helpful in the sphere of training as well; it offers digitally facilitated student centered approach (Monopolis, 2014). A product of result-based media is collaborative learning, communication, information and knowledge exchange, and interaction. Students benefit from a better learning environment thanks to social media platforms (Murumba et al., 2015). Students utilize their mobile phones to search for information, materials, and content as well as as a learning tool in the classroom (Bagarukayo, 2015).

Since most students utilize social media for research, classes, and related materials, its use in higher education is growing every day. Social media, according to students, is a way to



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connect with friends, family, and institutions. Social media is used by both teachers and students for educational purposes. Social media users are people from all walks of life, primarily students. It also serves as a source of inspiration. The learner-centered approach has replaced the teacher-centered approach in today's educational system. Social media platforms help students with their research and education; even the most timid and quiet pupils participate actively in class activities. Information and communication technology is also used by universities and other higher education institutions to deliver instruction; it draws and inspires students.

Problem Statement

Online communication is a major factor in the modern day. There are many uses for it. Masses of every field of life utilize social networks application for a number of purposes. Everybody knows at least one application of social media, if not more, social networking application in their daily life. One common source and medium for influencing public opinion is social media. Social media has deep impact on every aspect of human life including education. Social media is becoming a widely used source of knowledge and education after gaining legitimacy and appeal throughout time. The body of knowledge is expanding by billions of pieces per second. Videos, audio, text, and images are also employed on social media for a variety of artistic purposes.

According to Devi et al. (2019), social media facilitates student communication, explains and disseminates information among scholars, associates and connect pupils with parents and educators, and permits students to obtain skills and knowledge worldwide. Social media replaces rote learning with conceptual learning, innovates the old educational system, and makes teaching and learning simple while entertainingly explaining complicated concepts and theories through audiovisual content (Hathaway et al., 2007). Students are more engaged and creative while using social media in the classroom (Gulzar et al., 2022).

According to Bloom, a person cannot put on practically facts and thoughts without comprehending them, and comprehension is only achievable through concept knowledge and memorization. Knowledge application is the process of modifying information for a novel circumstance where comprehension is crucial. To analyze an idea, the student needs to be knowledgeable, comprehend, and able to apply abilities. Each of these components serves as the foundation for assessment. The pinnacle of cognitive learning is creation (Kratwohl, 2002).

The researcher plans to examine the efficacy of social media in learning in light of its usage in education in order to determine the degree to which social media use clarifies the idea of learners. Therefore, the subject of the study is how well social media works to improve people's higher order thinking abilities at the university level in Khyber Pakhtunkhwa.

Objectives of the study

1. To ascertain that how social media can enhance a person's ability of concept analysis.
2. To determine the influence of social media on individual's evaluation skills.
3. To find out the way social media can help someone develop their production skills.



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Hypotheses

1. There is no significant association in social media and an individual's ability to analyze concepts.
2. There is no significant connection in between social media and an individual's ability to evaluate concepts.
3. There is no significant bond between social media and an individual's ability to create concepts.

Significance of the study

University instructors and students/scholars may find the study useful in understanding how social media contributes to concept clarity at higher education levels by Using and watching various audio and video lectures, maps, and diagrams, the standpoints will be recognized and explored in order to come to a consensus on how social media helps students learn quickly and clarify concepts for both professors and students. The results of this study could help scholars and students better grasp a certain subject and use social media to elucidate it. This study could help students and scholars gain access to various social media platforms that could inspire them to learn and gain a mastery of the relevant subjects.

Delimitation of the study

There are a number of social networks applications, which are using for numerous purposes such as for audio, video, lecture, diagram, pictures, maps, discussion, debates etc. the current investigation was delimited due to shortage of time and financial problem, to

- (i) YouTube,
- (ii) Twitter, and
- (iii) Face book

Literature Review

Social Media

Students and educational institutions have numerous chances to enhance the learning environment through social networks. It allows students to communicate with instructors, peers, and parents and share pertinent instructional resources. Students can benefit from a variety of resources posted on social media, online seminars conducted via YouTube videos, and courses taught by foreign institutions and universities via Skype. It is a useful resource that offers insightful information on a range of subjects or problems for academic purposes. Numerous instructional websites exist. A student's perspective will be expanded as a result of following these websites and lectures, which will provide more pertinent and useful study materials.

Through social media platforms like YouTube, Facebook, and Google Plus, a college or university can establish a connection with students. To guarantee that students and institutions are communicating, these methods can be used. It helps to handle the concerns of many students by forming arrangements pertaining to the college and pupils. All students who are connected to the networks and pages can view the positive and uplifting content that institutions provide. One recent instance of COVID-19 was when in-person



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conversations, lectures, and classroom activities were not available. Social media plays a critical role in fostering connections between educators, students, and institutions. Social media was used to provide a learning environment through the use of videos, lectures, and presentations that were distributed among various groups. To find out what experts think and feel about a certain photo, one can use Google Forms to conduct a survey or use Instagram or Facebook polls. Social networking apps are also used for presentations and sharing of slides. Social media can be utilized in a variety of ways, including corporate networking sites, virtual worlds, social gaming, video sharing, review sites, and more. Individuals utilize various social media platforms to connect with possible employers, find individuals worldwide who share their interests, and express their emotions and opinions on social media platforms. Governments and statesmen utilize social media application for official functions as well. One essential resource for business websites is social media. These applications are used by businesses to discover and engage with consumers, promote and disseminate goods, identify customer tendencies, and offer client service or help. Social media's capability to collect data, permits businesses to stress on marketing campaigns and market analysis. By enabling the provision of targeted, timely, and unique discounts and coupons to prospective customers, it facilitates the advertising of goods and services.

Education and Youtube

The chalkboard and blackboard that formerly dominated the educational system have been effectively supplanted by clever teaching techniques. The learner-centered approach is currently in demand, and the old teaching and learning methods have not yet been replaced. YouTube has consequently emerged as a useful teaching tool to meet the demands of the contemporary world. YouTube offers a vast array of content, ranging from educational to entertaining (Othman, 2018). Its excellent audio-visual quality makes it a valuable teaching tool. Numerous professionals, academics, and resource people have their own YouTube channels where they post films about educational topics and "how-to" keep students interested and engaged.

Education and Twitter

This platform is often considered a very useless social media sharing site. Because tweets and posts on Twitter are limited to 140 characters, some individuals have this negative impression. For some, more text is required, although this is the same amount as a typical SMS. Twitter is a useful educational tool, though. The user may just use a few short phrases to express the main idea of their message while utilizing Twitter for teaching, but that is more than sufficient. But lesson planning is not the only use for Twitter. Twitter may be used by educators to save time, assist students with their exam preparation, keep the peace, and notify everyone of critical information (Norman, 2015).

Facebook as a Learning Tool

According to Bull et al. (2008), informal education in the framework of sharing media offerings significant opportunities for increased learner involvement in formal education settings. Teachers, with the support of their experiences, understand that the younger generation utilizes and is familiar with communication technology, so it should be



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linked to pedagogy and content. Teachers have experience in this area, and both present and future generations can collaborate to make use of this platform for education and learning.

Bloom's Taxonomy

Bloom's Taxonomy, a system for classifying educational objectives into levels of complexity and specificity, was created in 1956 by educational psychologist Benjamin Bloom. It has been widely utilized to help teachers develop their lesson plans, teaching strategies, and evaluation techniques. The three learning domains that Bloom's Taxonomy originally covered were cognitive (knowledge-based), affective (emotion-based), and psychomotor (action-based). The cognitive domain was the one that was used the most. A updated version of the cognitive domain was presented in 2001 by former Bloom student Lorin Anderson and David Krathwohl, one of the original creators of the taxonomy. Often referred to as Bloom's Revised Taxonomy, this updated taxonomy reflects a more dynamic classification paradigm.

The two main modifications were rearranging the top two levels and substituting verbs for the original taxonomy's nouns to reflect thought processes. The Bloom taxonomy is a system developed by B. Bloom that ranks the various educational goals according to skill levels in various domains (Crowe et al., 2008). Helping students learn is the main driving force behind this taxonomy, and teachers use their best teaching practices to achieve the desired outcomes. By explaining its three domains—In terms of the head, the heart, and the hand, cognitive, affective, and psychomotor—it is possible to understand the Bloom taxonomy. These have all been further divided into several learning levels.

The following are the three types of objectives and their purposes:

- The cognitive domains include knowledge, creativity, problem-solving skills, mental capacity, and thinking.
- The affective and attitudinal domains are linked to human will, likes and dislikes, emotions, values, and motivation.
- The utilization of the motor-skill regions, coordination, and physical movement are all related to the psychomotor domains.

Higher Order Thinking Skills

Analyzing

This higher-order ability entails segmenting information into manageable chunks in order to identify and acquire associations and comprehension. This includes differentiating, creating, allocating, disassembling, and evaluating. Evaluating: At this level, students base their conclusions on norms and criteria. They evaluate and make decisions about facts, the viability of concepts, or the caliber of the job. Checking, speculating, evaluating, testing, and judging are all included in this.

Creating

This is the greatest level of the cognitive domain and entails coming up with novel concepts, goods, or methods of comprehension. According to Anderson and Krathwohl (2001), students design, build, plan, manufacture, or develop something new.



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Bloom's Revised Taxonomy is important because it places a strong emphasis on the learning process. By comprehending this hierarchy, educators can develop more demanding and successful teaching strategies and evaluations. Additionally, by ensuring that higher-order abilities are targeted, the taxonomy helps to match educational objectives, evaluations, and activities. Wilson (2016)

Research Methodology

The study was quantitative in nature. The survey research method was used to collect data from the respondents. The researcher used deductive approach to achieve the objectives. All the students of the universities in Khyber Pakhtunkhwa make population of the research. As the study is quantitative in nature so the researcher used simple random sampling technique (probability sampling). The sample of the study consisted of four hundreds scholars/students from ten universities of Khyber Pakhtunkhwa (five public, three private and two women sector). To collect the data the researcher personally visits each of the relevant universities and meets with the respondents. The researcher used a closed-ended fivelikert scale questionnaire, in which each statement had five possible answers: agree, strongly agree, neutral, disagree, and strongly disagree with the statement (Pearse, 2011). Questionnaire was consisted of fifteen items, first five statements were about the social media and analyzing ability, questions from 6 to 10 related of social media and evaluating ability, and the last five statements were about social and creating ability (steps toward conceptual clarity). The results of the study, which was conducted using SPSS, were non-parametric; inferential statistics, such as chi-square, were employed in consideration of the data's requirements and nature. The mean of the hypothesis was also tested using standard deviation, frequency, and percentage.

Analysis of Data

Table 1: There is no significant relationship between social media and individual's ability to demonstrate concepts.

	N	M	SD	X ²	df	P
Social media is a powerful instrument that develops a person's analytical skills.	400	1.79	0.84	376.650 ^a	4	.000
.Social media is an efficient tool that allows someone to critique an idea.	400	1.94	0.98	284.300 ^a	4	.000
Social media contributes significantly to the development of conceptual differentiation skills.	400	1.81	0.83	383.600 ^a	4	.000
One important factor in developing the capacity to properly organize concepts is social media.	400	1.87	0.90	307.275 ^a	4	.000



Social media is a useful tool that fosters the ability to recognize connections between concepts and things. 400 1.84 0.82 376.675^a 4 .000

The connection between social media and a person's conceptual analysis skills is explained in Table 4.1 Social media use and students' conceptual analysis skills are significantly correlated, as indicated by the values of $X^2 = 376.650$ and $P = 0.000$. Social media use and students' capacity for criticism are significantly correlated, as indicated by the values of $X^2 = 284.300$ and $P = 0.000$. The results of $X^2 = 383.600$ and $P = 0.000$ indicated a significant relationship between students' use of social media and their capacity for concept differentiation. Social media use and students' capacity to place orders are significantly correlated, according to the values of $X^2 = 307.275$ and $P = 0.000$. According to the results of $X^2 = 376.675$ and $P = 0.000$, there is a significant association between students' use of social media and their capacity for relationship recognition.

Conclusion of the analysis regarding objective No 01 (Analyzing)

	Observed N	Expected N	Residual
Strongly Agree	760	400.0	360.0
Agree	928	400.0	528.0
Neutral	199	400.0	-201.0
Disagree	78	400.0	-322.0
Strongly Disagree	35	400.0	-365.0
Total	20000		

Table 2: There is no significant relationship between social media and individual's ability to evaluate concepts.

Items	N	M	SD	X^2	df	P
Social media is a powerful instrument for developing a person's capacity to apply knowledge in novel contexts.	400	1.71	0.69	468.500 ^a	4	.000
By using social media a person can effectively summarize a notion.	400	1.82	0.75	465.175 ^a	4	.000
Social media is crucial for creating the capacity to have discussions about a subject.	400	1.82	0.80	398.325 ^a	4	.000
Social media plays a main character in creating that the ability to make conclusion	400	1.82	0.85	340.025 ^a	4	.000
Social media is an operative platform that produces the ability to estimate things and	400	1.77	0.78	382.425 ^a	4	.000



ideas.

Table 4.2 explains how social media and a person's capacity for concept evaluation are related. The results of $X^2 = 468.500$ and $P = 0.000$ showed a significant relationship between students' use of social media and their capacity to apply knowledge in novel contexts. The results of $X^2 = 465.175$ and $P = 0.000$ showed a significant relationship between students' use of social media and their conceptual summarization skills. Students' use of social media and their capacity for discussion were shown to be significantly correlated ($X^2 = 398.325$; $P = 0.000$). The results showed a significant relationship between students' use of social media and their capacity for judgment ($X^2 = 340.025$, $P = 0.000$). The results of $X^2 = 382.425$ and $P = 0.000$ showed a significant relationship between social media use and students' ability to evaluate.

Conclusion of the analysis regarding objective No 02 (Evaluating)

	Observed N	Expected N	Residual
Strongly Agree	752	400.0	352.0
Agree	1005	400.0	605.0
Neutral	170	400.0	-230.0
Disagree	53	400.0	-347.0
Strongly Disagree	20	400.0	-380.0
Total	20000		

Table 3: There is no significant relationship between social media and individual's ability to create concepts.

	N	M	SD	X^2	Df	P
Social media is a powerful tool for improving people's capacity to innovate and develop new ideas.	400	1.68	0.76	471.800 ^a	4	.000
Social media can help people become better at coming up with ideas.	400	1.82	0.76	392.850 ^a	4	.000
Social media actively contributes to the development of adaptability.	400	1.79	0.83	379.800 ^a	4	.000
Social networking is a useful tool for putting forward ideas.	400	1.72	0.71	431.850 ^a	4	.000
Social media is an active tool that helps people become more creative.	400	1.81	0.81	373.775 ^a	4	.000

The connection between a person's capacity for concept creation and social media is explained in Table 4.3. Social media use and students' creative abilities are significantly correlated, as indicated by the values of $X^2 = 471.800$ and $P = 0.000$. According to the



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figures of $X^2 = 392.850$ and $P = 0.000$, there is a significant relationship between a student's use of social media and their conceptual design skills. Social media use and students' capacity for change were found to be significantly correlated, as indicated by the values of $X^2 = 379.800$ and $P = 0.000$. The results of $X^2 = 431.850$ and $P = 0.000$ showed that there is a significant relationship between students' use of social media and their capacity for proposal writing. With $X^2 = 373.775$ and $P = 0.000$, the results showed a significant relationship between students' use of social media and learners ability to design.

Conclusion of the analysis regarding objective No 03 (Creating)

	Observed N	Expected N	Residual
Strongly Agree	791	400.0	391.0
Agree	980	400.0	580.0
Neutral	159	400.0	-241.0
Disagree	52	400.0	-348.0
Strongly Disagree	18	400.0	-382.0
Total	20000		

Findings

Regarding objective No 01

Table 4.1 revealed that 87% of participants concurred that social media is a useful tool for developing one's analytical skills. Table 4.2 shows that 80.5% of participants thought social media was a useful tool for allowing people to critique ideas. 87% of participants agreed, as shown in Table 4.3, that social media contributes significantly to the development of conceptual differentiation skills. 81% of participants agreed, as shown in Table 4.4, that social media is a significant factor in developing the capacity to properly organize concepts. As shown in Table 4.5, 85% of participants said social media was a useful tool for fostering the ability to relate ideas and objects to one another.

Regarding objective No 02

1. As shown in Table 4.1, 92% of participants concurred that social media is a useful tool for developing one's capacity to apply knowledge in novel circumstances.
2. 89.5% of participants agreed, as shown in Table 4.2, that social media is a useful tool for summarizing ideas.
3. According to Table 4.3, 87.3% of respondents concurred that social media contributes significantly to the development of effective conversations about a topic. Table 4.4 revealed that 84.3% of respondents concurred that social media significantly contributes to the development of judgment.
5. Table 4.5 showed that 87% of respondents thought social media was a useful tool for developing the capacity to assess concepts and items.

Regarding objective No 03

1. According to Table 4.1, 93% of participants said social media was a good way to help people learn how to make new things.
2. According to Table 4.2, 86.5% of participants said social media helped them become



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better concept designers.

3. According to Table 4.3, 87% of students concurred that social media actively contributes to the development of adaptability.
4. Table 4.4 showed that 90% of participants thought social media was a good way to introduce a notion.
5. As shown in Table 4.5, 86.3% of participants concurred that social media is an active instrument that fosters creativity.

Conclusion

Statistical analysis led to the following results. Most educators and students agree that social media can help pupils become better at organizing, analyzing, critiquing, and differentiating ideas. Most students believe that social media greatly enhances one's ability to summarize, evaluate, and review instructors. Social media is a helpful tool for enhancing a person's ability to develop, create, design, modify, recommend, and generate ideas, based on the students' answers.

Recommendations

As this research study demonstrated the "effectiveness of social media in enhancing student's higher order thinking skills at the university level in Khyber Pakhtunkhwa," keeping in view the result and conclusions of the research the following recommendations were made.

1. The outcomes of the present research indicated that social media is a helpful tool for enhancing students' ability to categorize, assess, critique, and differentiate between concepts. It is therefore recommended that educational institutions support and guide students in gaining access to a variety of social media platforms that motivate them to learn and develop into subject-matter experts.
2. The current study's findings showed a significant relationship between students' use of social media and their conceptual summarizing abilities. Therefore, in order to ensure that students improve their ability to evaluate themselves, it is recommended that a variety of social media applications and forms be used in the classroom.
3. Social media is a helpful tool for enhancing an individual's ability to create, design, develop, adapt, suggest, and originate ideas, according to the study's findings. It is suggested that different social media apps be considered by the government, lawmakers, curriculum designers, stack holders, and textbook developers as a tool to support the teaching and learning process. Additionally, they ought to embrace, create, adapt, and enhance instructional resources and strategies for integrating social media in the classroom.

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