Chaturbhujeshwar Academy Journal (CAJ)	Article Info:
ISSN: 3021-9442 (Print)	Received: July 15, 2023
eJourjal Site:https://www.cjmcsarlahi.edu.np/publication	Revised: Oct. 27, 2023
Peer-Reviewed, Open Access Journal	Accepted: Nov. 05, 2023

Exploring Smartphone Usage as an ICT Tool among College Students of Chaturbhujeshwar Janata Multiple Campus

Laxman Shreath, PhD (Scholar), TU, Lecturer at Chaturbhujeshwar Janta Multiple Campus.
ORCID: 0009-0009-5524-6319
Corresponding Email: laxman.shrestha.sarlahi@gmail.com

Abstract

This study aims to reveal students' and lecturers' perspectives on Information and Communication Technology (ICT), including its pros and cons, and to cultivate a technology-friendly environment in colleges. It extensively examines the potential benefits and challenges linked to integrating Mobile Technology in education. Moreover, the research seeks to understand how both students and educators perceive mobile technology use among college students, evaluating its advantages and disadvantages. This study employs the Connectivism theory as the analytical framework to evaluate the study's outcomes. Data analysis involves the utilization of frequency analysis. The research design is characterized as a concurrent mixed methods approach. The primary research instruments utilized encompass a semi-structured questionnaire and an interview checklist. The target population consists of 700 students and 22 teaching faculties enrolled in Bachelor's degree programs, with 152 students and all 22 faculties selected as respondents. Upon the comprehensive integration and synthesis of data, a total of 14 fundamental themes and two overarching perception themes were discerned through the analysis process. The findings reveal that smart phones are widely used among college students for studying, communication, and accessing information. Meanwhile, students and lecturers have acknowledged both the benefits and the potential negative impacts on academic performance. The study provides valuable insights into the perceptions and experiences of students and educators regarding the usage of mobile technology in education. As technology continues to play a vital role in education, it is essential to foster a conducive learning environment by leveraging its advantages while mitigating its potential drawbacks.

Keywords: ICT Tool, smartphone usage, college students, case study

Introduction

In the 21st century, smart phones have become an indispensable technology, offering convenience and accessibility (Zheng & Ni, 2010; Ghavifekr et al., 2015; Gul&Bano, 2019).With the advent of the COVID-19 pandemic, ICT tools (smart phones) have become crucial tools for students, enabling online education through virtual lectures and classes (Thapaliya & pathak, 2021; Ahmed & Opoku, 2022). Their affordability and widespread availability have made smart phones invaluable for research and project work, especially when laptops or computers are not readily accessible (Dawadi et al., 2020; Shrestha et al., 2022).The pandemic-induced shift to eLearning has introduced trends like online testing, digital notes, and pre-recorded lectures, which are likely to persist beyond the pandemic (Li, 2022; De Paola et al., 2023). Mobile applications further aid students in areas requiring additional support. Mobile phones also serve as a communication bridge between students and parents, enhancing safety and participation in education (Dzogbenuku et al., 2019; El-Haggar et al., 2023). Incorporating mobile devices into learning is essential to prepare students for future workforce demands (Primmer et al., 2014; Ahmad, 2020; Hernandez-de-Menendez et al., 2020).

The Nepalese government has formulated a comprehensive ICT integration master plan to ensure equitable access and quality education for all (Lim et al., 2020).This plan emphasizes ICT-integrated teaching and learning environments and pilot programs to evaluate ICT's effectiveness in schools. Tribhuvan University (TU) and Kathmandu University (KU) support the use of computer technologies for open and distance education students (Ministry of Education, 2013, p. 4). TU offers programs like B.ED in ICT and Bachelor of Information Management (BIM), while the Institute of Engineering has established technology centers. TU's Open and Distance Learning Center promotes virtual learning through an android application, aiming to bridge the digital divide (ODEC-TU).These initiatives endorse mobile learning in Nepalese higher education, necessitating thorough assessments of students' mobile learning practices before implementing new educational modes (Parajuli, 2016).

In the digital age, Information and Communication Technology (ICT) has transformed education (Haleem et al., 2022) and Business (Devkota et al., 2023). College students have embraced technology as an integral part of their learning journey(Becker et al., 2017; Paudel et al., 2018).The field survey shows, among the array of ICT tools, mobile phones stand out as popular choices among students at Chaturbhujeshwar Janata Multiple Campus (CJMC) in Nepal, complementing traditional methods. Mobile learning (M-learning) extends learning beyond scheduled class hours, enabling critical thinking, collaboration, and concept discussions and yet, implementing mobile learning requires measuring users' perceptions, influencing adoption(Mohammadi et al., 2020). Though mobile phones offer advantages like instant information access and dynamic learning

experiences, they also pose challenges such as distraction and academic integrity concerns (Latif et al., 2019). Connectivity through messaging apps and online forums enriches communication but can reduce face-to-face social interactions (Brubaker, n.d.). Health effects of prolonged screen time should not be ignored, impacting eye strain, posture, and sleep (Nakshine et al., 2022). ICT's integration in education enhances teaching and learning, bridging the digital divide and introducing innovative approaches (Yunus et al., 2013). While advantages include interactive learning and personalized experiences, potential drawbacks involve distractions and overreliance Azad, T. (2023). Proper guidelines, responsible use, and balance are essential for harnessing ICT's benefits (Fu, 2013).

In the rapidly changing realm of education, the blending of Information and Communication Technology (ICT) has reached a harmonious point, with smart phones taking center stage. Against this backdrop, Chaturbhujeshwar Janata Multiple Campus (CJMC), a central educational institution situated in Nepal's Madhesh province, holds a significant stature. In this context, the imperative of adopting a blended model of teaching and learning is paramount. However, a conspicuous gap in comprehension persists among key stakeholders, students, parents, faculty members, and intellectual influencers regarding the suitability and consequential implications of using mobile phones as ICT tools within classrooms. This research embarks on the significant task of addressing this void, aspiring to evaluate the role of smart phones as educational instruments within CJMC. By delving into this exploration, the study aims not solely to assess the viability of smart phones as pedagogical aids, but also to discern the merits and demerits associated with their integration. Moreover, the research places a critical emphasis on establishing a technology-friendly environment conducive to effective teaching and learning, responding to the evolving educational paradigm and its intricate relationship with digital tools.

The primary objectives of this study chart a comprehensive roadmap for investigating smart phones as educational instruments within CJMC. Firstly, the research endeavors to probe the appropriateness of employing smart phones as ICT tools among college students at CJMC, scrutinizing the compatibility of these devices with the educational milieu. Secondly, the study meticulously examines the duality of incorporating mobile technologies, particularly smart phones, within the educational process. This involves a thorough evaluation of the inherent benefits and drawbacks of their integration, enabling a comprehensive understanding of their role. Lastly, and equally crucial, the research aims to assess the necessity of cultivating a technology-friendly environment that fosters an ecosystem where effective teaching and learning can flourish in synergy with digital tools. Through the pursuit of these objectives, the study aims to unravel a nuanced comprehension of Smartphone's' role as educational tools, offering insights into their appropriateness and efficacy, while concurrently shaping educational policies and strategies to forge an environment

that seamlessly amalgamates technology, promoting a conducive and technology-enhanced learning ambiance.

Literature Review

Integrating technology in the classroom has the potential to enrich the learning experience and yield positive outcomes for students. It provides numerous advantages, including heightened engagement and motivation, improved accessibility, enhanced collaboration and communication, personalized learning opportunities, and enhanced learning outcomes. However, it is of utmost importance for teachers to carefully deliberate on how technology can be employed effectively and appropriately to align with their teaching and learning objectives (collegenp, 2022). The integration of Information and Communication Technology (ICT) in education has become a widespread practice in universities and colleges worldwide. Institutions are embracing technology to enrich the learning experience and enhance student outcomes. Online learning platforms, like learning management systems (LMS), are increasingly adopted to deliver course content and assessments. These platforms centralize resources, discussions, assignments, and instructor feedback. Blended learning combines traditional and online instruction, offering flexible and personalized learning. Virtual classrooms and video conferencing enable real-time interactions, transcending geographical constraints. Open Educational Resources (OER) are freely accessible materials supplementing traditional resources, curbing costs and expanding options. Mobile learning harnesses smart phones and tablets, with universities developing apps and mobile-friendly platforms for flexible, on-the-go learning.Collaborative online projects foster teamwork, facilitated by communication tools. Training programs aid educators in effectively integrating ICT, enhancing their tech proficiency and pedagogical methods. These practices underscore the global shift towards tech incorporation in higher education, aiming to create interactive learning environments, improve accessibility, and prepare students for modern work demands.

In higher education, mobile learning (m-learning) is integral, enabling collaborative learning and idea exchange via technology. Mandating students to turn off mobile devices in class might not align with their tech-savvy nature. This has significant implications for policy and teaching methods. Today's college students are deeply involved in the digital revolution, using online platforms extensively. They consider themselves digital pioneers, adept at accessing and processing information efficiently. Their learning style differs from previous generations, underlining the importance of embracing technology for effective education (Murshidi, 2017). The blended model of teaching and learning has gained traction in universities across Nepal, aiming to combine the benefits of traditional face-to-face instruction with online learning components. This approach recognizes the value of technology in enhancing educational experiences and expanding access to resources.

There are some aspects of the blended model of teaching and learning at universities in Nepal: Online Learning Platforms, Flipped Classroom, Virtual Classrooms and Video Conferencing, Blended Assessments, Multimedia and Interactive Content, Collaborative Online Projects, Open Educational Resources, Mobile Learning and Teacher Training and Support etc. The blended model of teaching and learning in universities in Nepal aims to create a more dynamic and interactive learning environment. By combining face-to-face interactions with online components, universities seek to improve student engagement, facilitate personalized learning experiences, and provide students with the flexibility to access resources and engage with course materials at their own pace.

Technology offers advantages in face-to-face classrooms concerning communication and relationships. Students can engage in course-related discussions with peers and instructors using communication devices, streamlining interactions for tasks like scheduling meetings and sharing information. These devices also grant access to online resources. However, while students find benefits in technology use, it doesn't necessarily lead to dependency. Students recognize technology's positive impact on relationships outside class, but some view it as a potential distraction during class. Interestingly, rapport with instructors doesn't significantly impact device usage or perceptions of distraction. Overall, mobile technology presents both positive and negative effects on relationships in communication courses, urging instructors to be mindful of these dynamics to manage potential drawbacks (Stoian et al., 2022).

Students exhibit a positive view of cell phones as educational tools, highlighting their role in fostering connectivity, collaboration, and flexible learning experiences. The integration of cell phones into education capitalizes on internet connectivity, enabling knowledge acquisition and enhancing interaction and learning outcomes. The growing use of mobile phones in higher education signifies a transformative shift in teaching and learning, enabling immediate application of knowledge beyond temporal or spatial constraints (Ahmad, 2020). At the CJMC, a blended model of teaching and learning has been implemented during and post Covid-19, ensuring the institution's adaptability and resilience. The campus boasts a team of ICT-friendly faculties who effortlessly integrate smart-board, projector technology into their teaching methods. With fully equipped facilities, including cameras and WiFi-enabled classrooms, the campus provides a favorable environment for the faultless integration of technology and education. Through the use of online apps, class notes and assignments are easily shared, enhancing the accessibility and convenience of learning materials. Classes are conducted through various platforms such as Zoom, Messenger, and Google Meets, enabling dynamic and interactive sessions. Both students and teachers reap the benefits of this blended model, enjoying the flexibility, engagement, and enriched educational experiences it offers.

Table 1

The historical development of ICT tools from the first computer to today's smart phones

1936-1945: The first programmable computer concepts emerged during this period.
1945: ENIAC (Electronic Numerical Integrator and Computer), was developed.
1947: The invention of the transistor.
1951: The UNIVAC I (Universal Automatic Computer), the first commercial computer produced.
1958: The integrated circuit, developed.
1969: The Advanced Research Projects Agency Network (ARPANET), a predecessor of the internet, was created.
1971: The first microprocessor, the Intel 4004, was introduced.
1976: The Apple I, a personal computer designed.
1981: IBM launched the IBM PC.
1989: Tim Berners-Lee invented the World Wide Web.
1992: The first Smartphone, the IBM Simon, was introduced.
1993: The development of Mosaic, a graphical web browser.
Late 1990s: The dot-com bubble occurred, characterized by rapid growth and speculation in internet-based businesses.
Early 2000s: The rise of broadband internet.
2007: Apple launched the iPhone.
2010: The iPad, a tablet computer, was released by Apple.
2015: The Internet of Things (IoT) gained prominence.
2016: Virtual reality (VR) and augmented reality (AR) technologies.
Present day: The advancements in ICT continue to progress rapidly, with developments in artificial intelligence (AI), cloud computing, 5G connectivity, blockchain, and quantum computing, among other areas (Google, 2023).

The use of mobile phones in the classroom of (CJMC) presents both advantages and challenges. While mobile phones provide access to information, promote interactive learning, facilitate communication, and enhance organization, they also pose concerns regarding distraction, disruption, academic integrity, reduced social interaction, and health effects. Striking balance between leveraging the benefits of using ICT while mitigating its drawbacks are crucial to ensure a productive and enriching learning environment for college students.

Methodology

Conceptual Framework

Connectivism is a contemporary learning theory tailored to the digital era, emphasizing the role of internet technologies in shaping how knowledge is acquired and shared. Unlike traditional theories, connectivism contends that knowledge extends beyond individuals and can exist in databases or organizations. The theory highlights the significance of forming connections between

information nodes, prioritizing the process of connecting over static individual knowledge. Key principles of connectivism include valuing diverse opinions for widespread learning, active engagement in connecting specialized nodes, recognition of non-human sources of knowledge, and a focus on dynamic and adaptable learning. The theory underscores the importance of maintaining and nurturing connections within the knowledge network to foster continuous learning. A core skill in connectivism is the ability to perceive connections between diverse concepts, facilitating a holistic understanding of subjects. Connectivism introduces the notion of "currency" in learning, stressing the need to access and employ current information due to the ever-changing nature of the digital landscape. Decision-making is also considered a learning process in connectivism, as learners must constantly interpret incoming information within the context of shifting realities. Overall, connectivism provides insights into how learning transpires in the digital age by emphasizing connectivity, adaptability, and engagement with various information sources. This perspective enables educators and learners to harness digital technologies and interconnectedness to optimize knowledge acquisition and remain adaptive in a constantly evolving world. By embracing the principles of connectivism, individuals can navigate the complexities of the information age and make informed decisions while continuously expanding their understanding (Shriram& Warner, 2005).

In the context of students' perception on use of Smartphone in CJMC, Sarlahi, Connectivism Theory highlights the importance of addressing the access to use of technology in the classroom. The conceptual framework presented in this study, which focuses on Using Smartphone in the classroom, Pros and cons of Using ICT the College and Technologies-friendly environment at the CJMC aligns well with the principles of the Connectivism Theory. This framework provides a more comprehensive understanding of the issues faced by students at the CJMC, Sarlahi.

Use of Smartphone and its perception.

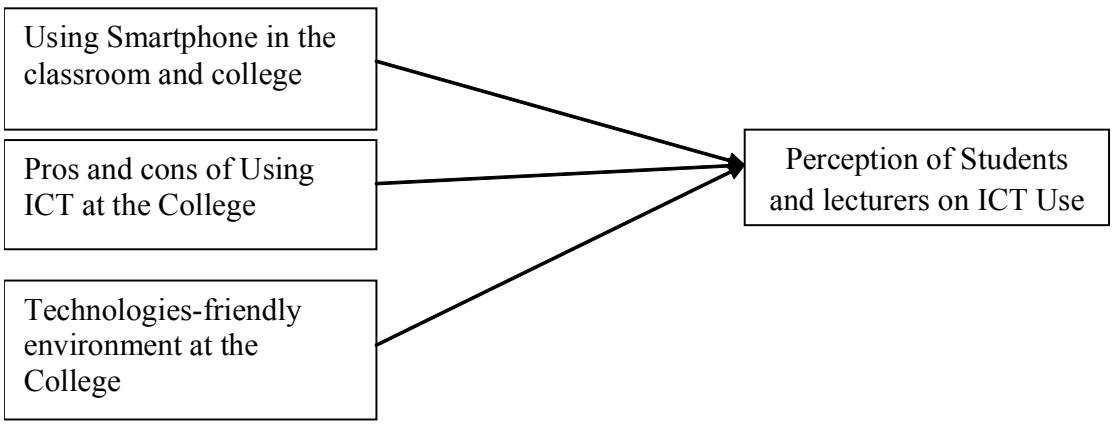


Figure-1

Teacher and student's perception on ICT Usage

Study Area and Population:

Chaturbhujeshwar Janata multiple Campus is located in Harion Municipality in Sarlahi district of Madhesh Pradesh, Nepal. Sarlahi district is located in the southern region of Nepal. It is one of the recognized academic institutions in the district. The institute runs three faculties: Management, Humanities and Education. There are 700 students and 22 faculties in Bachelor's degrees and 152 students and 11 faculties were selected as respondents. The selection of the sample was based on a random sampling technique, where students were selected based on a convenient method. The sample was designed to be representative of the population and was stratified by faculties and age group status. To ensure the reliability and accuracy of the data, the research tool was approved by expert. For the collection of factual information researchers themselves involved in the process of data collection. For the FGD the researchers themselves had in deft interview with group of 22 lecturers with the help of interview checklist.

Research Instrument, Data Collection and Analysis

This research underpinned post-positivism paradism, the research instrument used was a semi-structured questionnaire and interview checklist (Thapaliya & Pathak, 2022), which was administered through classroom survey to a sample size of 152 students and FGD with lecturers in CJMC campus, HarionSarlahi, Nepal. The researchers personally interacted with the respondents during data collection and provided assistance in filling out the questionnaires properly. The FGD had been done with lecturers. The study topic was analyzed by interpreting both the primary data from the survey and secondary data from books, articles, and online sources. The survey focused on students and lecturers perceptions on ICT used in the classroom and college premises, using a conceptual framework based on connectivism theory. The framework included factors such as using Smartphone in the classroom, pros and cons and technology friendly environment, and aimed to understand the students and lecturers perceptions towards ICT use in the campus. Data collected from the survey was analyzed using descriptive statistics such as frequencies and percentages to understand the distribution of responses. Qualitative data have been used for the additional support to analysis. The study provides valuable insights into the students and lecturers perceptions on ICT used in the campus, highlighting the importance of factors such as use and misuse and cues to action in promoting positive attitudes towards ICT use. The use of classroom survey and statistical analysis methods also adds to the rigor of the study and provides reliable and valid findings for policymakers and stakeholders to develop effective strategies for improving teaching learning in the CJMC

Results

Socio-demographic Profile of the Respondents

The table provides a breakdown of the distribution of students by faculty, gender, age classification, and the corresponding percentages. In terms of age classification, the table divides the students into three categories: age 15-19, age 20-25, and age 26 above. For the age group of 15-19, there are a total of 54 students, with 45 females (83%) and 9 males (17%) respectively. Moving on to the age groupof 20-25, there are a total of 91 students. Among them 67 are females (74%)and 24 are males (26%). For the age group of 26 and above, there are 7 students in total, with 5 females (71.4%) and 2 males (28.6%). Among the faculties there are 152 students, Humanities has 12 students (7.89%), Management has 90 students (59.21%), and Education has 50 students (32.89%). The distribution by faculty indicates that Management has the highest number of students with 90 (59.21%), followed by Education with 50 students (32.89%) and Humanities has least students with 12 students (7.89%) respectively.

Table 2

Faculties-wise distribution of total number of students

Male/Female/ Total	Stream	Age: 15-19		Age: 20-25		Age: 26 above		Total	
		Number	100%	Number	100%	Number	%	Number	100.00 %
	H	2	4%	6	7%	0		8	5.26%
	M	32	59%	31	34%	0		63	41.45%
Female	E	11	20%	30	33%	5	71.4%	46	30.26%
	H	1	2%	1	1%	2	28.6%	4	2.63%
	M	6	11%	21	23%	0		27	17.76%
Male	E	2	4%	2	2%	0		4	2.63%
	H	3	6%	7	8%	2	1%	12	7.89%
	M	38	70%	52	57%	0	0%	90	59.21%
Total	E	13	24%	32	35%	5	3%	50	32.89%
HME Total	HME	54	36%	91	60%	7	4%	152	100.00 %

Note: H: Humanities, M: Management, E: Education, %: percent, 100%: sum of male and female

Students Perception on Use of Mobile Phone at College and in Classroom

The study explores college students' perceptions and attitudes towards the utilization of mobile technology, particularly Smartphone's, in an educational environment. Through the analysis of various aspects such as the frequency and purpose of mobile phone usage, perceptions of mobile technology as a teaching tool, and opinions on its effectiveness in the classroom, the study seeks to uncover insights into how students view the role of mobile technology in their learning experiences. Additionally, the study investigates the advantages and disadvantages associated with mobile technology use, both within the college premises and during classroom activities.

Table 3

Distribution of students bringing Smartphone at the college

Bring M. Phone at college	strongly agree	Agree	No objection	Disagree	strongly disagree
No. of students	25	74	29	22	2
Percent	16.5	48.7	19	14.5	1.3

The data presented in "Table 3" elucidates the distribution of students' perspectives on bringing smart phones to college, drawn from a 2080 field survey. The responses are categorized into five tiers of agreement, spanning from "strongly agree" to "strongly disagree," with corresponding student counts and percentages for each category. Notably, a substantial proportion of students (48.7%) express agreement with Smartphone use on campus, while 16.5% "strongly agree," indicating robust endorsement. Approximately 19% hold "no objection" to bringing smart phones, in contrast to the 14.5% of students who disagree. A minimal 1.3% "strongly disagree." These findings imply widespread acceptance of smart phones in the educational milieu, underscoring the prevalent comfort with their presence. However, the absence of contextual details, such as survey methodology and demographics, necessitates careful interpretation to avoid overgeneralization.

Students were asked whether they used mobile phone in college, or in class room. The result shows that 57.9% of surveyed students (88 students) use Smartphone at college, while 42.1% (64 students) do not. For classroom use, only 7.2% (11 students) employ Smartphone, indicating a stricter boundary for their use in this setting. A substantial 46% (70 students) abstain from Smartphone use in the classroom, 15.1% (23 students) use them "sometimes," and 31.7% (48 students) are categorized as "Others," potentially representing diverse usage patterns. The data suggests that while a majority of students bring Smartphone to college, fewer integrate them into classroom learning, possibly due to adherence to classroom-specific regulations. The presence

of multiple usage categories underscores the multifaceted nature of Smartphone use within an educational context.

Figure 2

Purpose of using Smartphone in classroom

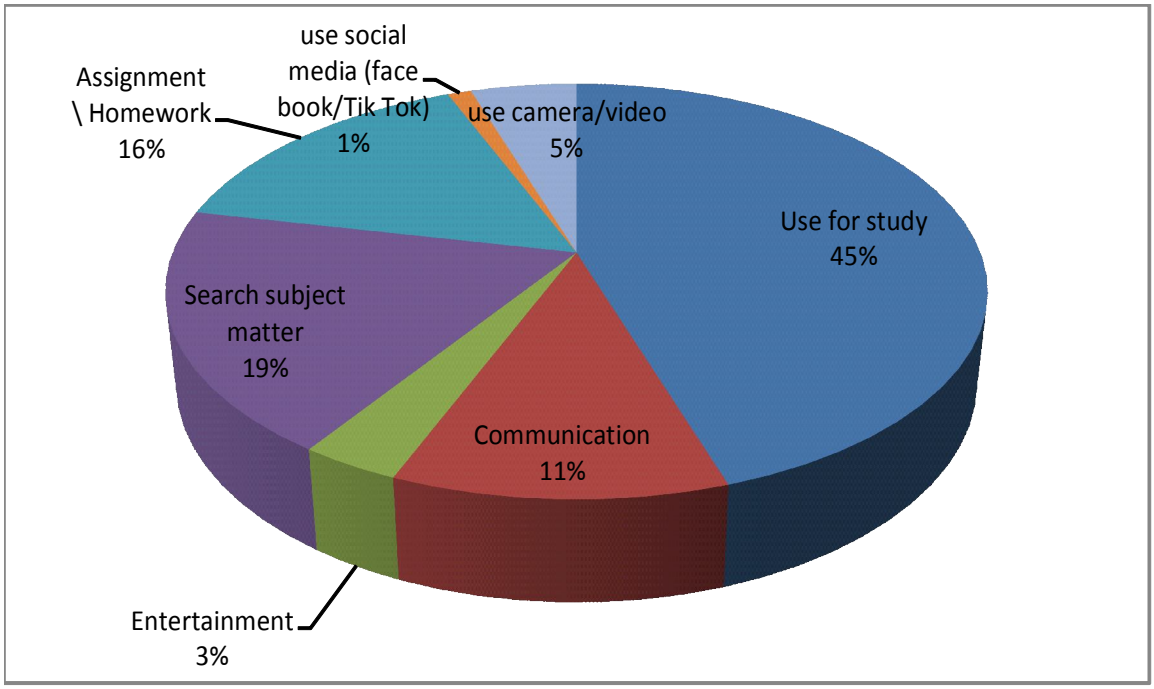


Figure 2 illustrates students' classroom Smartphone usage purposes. Among respondents, 8 students use smart phones for studying, 20 for communication, 6 for entertainment, and 34 for subject searches. Additionally, 28 students employ smart phones for assignments, 2 use social media, and 9 use the camera/video feature. This data underscores Smartphone's' predominantly academic role in the classroom, with study and subject-related searches being prominent. Communication and assignment utilization are also notable, while social media and entertainment purposes remain comparatively minimal.

Perception of students effective to use Smartphone in classroom is also discussed. The perceptions are categorized from "strongly agree" to "strongly disagree," with student counts and percentage distributions for each category. Notable findings include the majority of students either agreeing (29.6%) or disagreeing (30.2%) with Smartphone efficacy, while a significant proportion (25.7%) expresses no objection. A smaller percentage strongly agrees (4.6%), and another portion strongly disagrees (9.9%). The data reveals a balanced distribution across categories, suggesting

a lack of strong consensus on Smartphone's' effectiveness for learning. However, the absence of context, survey methodology, and demographics emphasizes the need for cautious interpretation of the findings.

Students also asked about advantages (pros) and disadvantages (cons of using mobile phone at college. Table 4 and 5 illustrate the pros and cons of using Smartphone in the classroom and at the college (Multiple answers).

Table 4

Pros of using mobile phone at college and in classroom

Advantages (Pros)	No. of students	Disadvantages (Cons)	Total students
Urgent call	63	use audio/video	9
Can search queries	60	Record lectures	58
Online fee pay	38	Take photo of subjects matters	111
Stay connected with outer world	15	Share notes among the colleagues	81
To do class assignment / Homework/ Class work	64	Enables easy interaction with students and colleagues	7
Essay teaching / learning	48	Easily utilized in the teaching and learning process	59
It is helpful to learn new knowledge	75	Willingness and motivation to learn in the classroom	27
Very useful for online class	47		
Essay to find online materials	51		
Easily used to search for textbooks and resources	41		

The results show that, in the college context, benefits encompass "urgent call" accessibility (63 students), query searches (60 students), online fee payment convenience (38 students), and external connectivity (15 students). In classrooms, benefits encompass capturing subject images (111 students), note-sharing (81 students), lecture recording (58 students), audio/video use (9 students), versatile teaching and learning (59 students), enhanced education (48 students), motivation for learning (27 students), easy interaction (7 students), online class utility (47 students), and resource finding (51 students). These pros underline Smartphone's' multifunctionality in communication, learning, and collaboration. Notably, limitations encompass missing survey details,

including respondent demographics, impacting result generalization. Overall, the data suggests that smart phones can significantly aid learning and engagement, although full contextual comprehension relies on comprehensive survey information.

Similarly, students opined about cons of used of start phone at college and in classroom. This shows drawbacks of Smartphone use in both college and classroom settings, detailing various concerns with corresponding student counts for each drawback. Challenges at college include interruption, distraction, cyber-bullying, cyber-crime, use for entertainment, and use of social media, alongside additional drawbacks like killing time, cheating potential, mental health problems, addiction, chatting during college, and seeking irrelevant information. Similarly, classroom cons involve interruption, irritation, lack of concentration, cyber-bullying, reduced interaction, and diminished creativity. The identified drawbacks underscore apprehensions about focus, online behavior, mental health, and interpersonal interactions. Prominent issues like distraction and cyber-bullying highlight the need for interventions and policies. However, limited survey details hinder comprehensive evaluation, necessitating context about methodology, demographics, and specific questions for thorough understanding.

Table 5

Cons of using Smartphone at the college and in classroom

Cons of Smart Phone use at college	No. of students	Cons of M. Phone use in classroom	No. of students
Interruption	36	Interrupt in classroom	85
Distraction	62	Irritation	44
Cyber-bulling	32	No concentration in study	93
Cyber crime	47	Cyber bulling	35
Use for Entertainment	62	Reduce meet up / Isolation	21
Use social media	42	Less Creativities	53
Killing time	79		
Easy for cheating in exam	61		
Mental health problems	39		
Suffer with monophobia / addiction	28		
Chatting with other students during the college time	79		
Search for irrelevant information/videos during college hours	29		

Students were also asked to share their view on positive and negative aspects of using Smartphone for teaching learning among college students. The table 6 outlines several advantages, including opportunities for enhanced learning and improved assignment quality, immediate student support, increased interest and creativity in tasks, performance enhancement, staying updated on relevant topics, teacher availability for discussions, and time-saving benefits. Conversely, it also highlights concerns such as Smartphone misuse, addiction, potential negative impacts on exam performance, motivation, and proactive behavior, as well as the possibility of fostering an easy-going atmosphere among teachers and students. The findings underscore the potential benefits of mobile learning while addressing potential challenges that warrant consideration in educational contexts, although the absence of survey specifics limits comprehensive understanding.

Table 6

Positive and negative aspects of using Smartphone for teaching learning

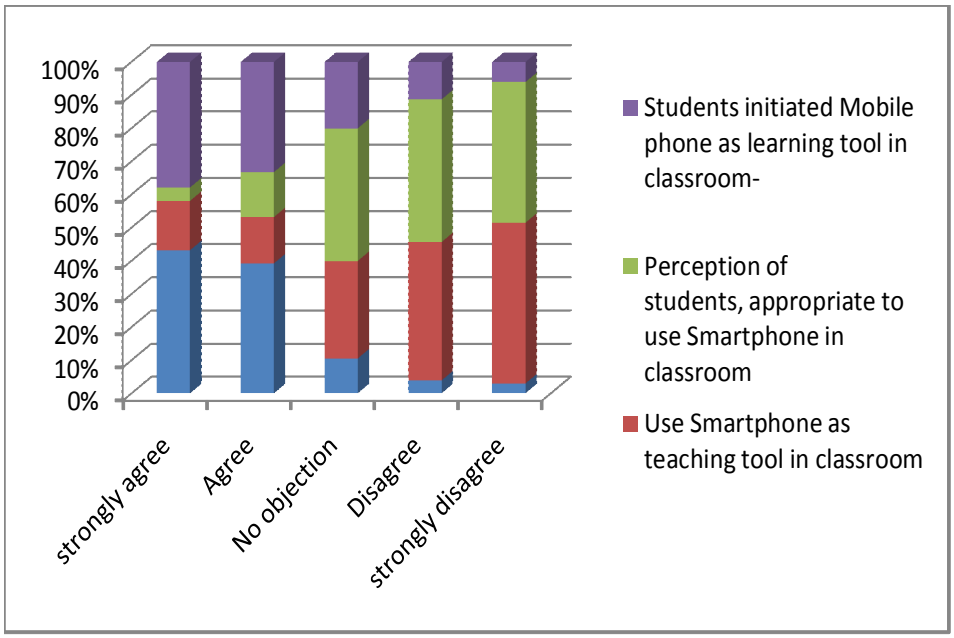
Positive aspects			**Negative aspects**		
	Number	%		Number	%
Mobile learning and teaching can provide countless opportunities to enhance student learning	68		Misuse of smart phone	68	
Mobile learning improves the quality of student assignments	87		Low performance in the exam	77	
Mobile learning can provide immediate support for students	75		Easy going teacher and students	26	
It always allows students to perform their tasks with greater interest and creativity	49		Addictions	64	
Improve the performance of students	53		Less motivation	68	
It helps teachers and students stay up-to-date on relevant topics	53		Less proactive	44	
Teachers are available for discussion at all times	44				
Time saving	72				

Respondents were also asked about whether mobile technology helpful tool for teaching learning. For each aspect, responses are categorized into five levels: "strongly agree," "agree," "no objection," "disagree," and "strongly disagree," with corresponding student counts. Notably, 32 students "strongly agree" and 104 "agree" that mobile technology is a helpful teaching tool. Meanwhile, 11 students "strongly agree" and 37 "agree" about using smart phones as teaching tools, while 3 "strongly agree" and 36 "agree" that using smart phones in the classroom is appropriate. Furthermore,

28 students "strongly agree" and 88 "agree" that students initiated mobile phones as learning tools. The varying responses indicate nuances in student perspectives on these aspects of mobile technology's integration in education.

Figure 3

Student's perception on use of Mobile phone



According to the perception of students, they utilize mobile phones extensively for various academic purposes such as studying subject matter, completing assignments, and conducting research. They find it incredibly convenient to have access to their mobile phones in the classroom and at college, as it enables them to seamlessly engage with their educational materials. Additionally, students recognize the value of mobile phones in facilitating their learning by allowing them to acquire new skills and knowledge. They also make use of their mobile phones to capture photos of important notes and documents, as well as to search for new words or concepts on the go. Moreover, students appreciate the practicality of having a mobile phone in case of emergencies, providing them with a sense of security and immediate access to assistance when needed. Overall, mobile phones play a multifaceted role in supporting students' educational journeys by offering them enhanced study capabilities, research tools, and essential communication in critical situations.

Comments or suggestions of students

The feedback of the students regarding the use of mobile technology in the college indicates several positive aspects. According to the students' comments and suggestions, mobile technology is seen as helpful in organizing programs within the college. It provides a convenient and efficient platform for communication, coordination, and planning, making it easier for students to participate in and contribute to various college activities and events. Furthermore, students mention that mobile technology offers immediate support to them. Whether it's accessing course materials, seeking clarification on assignments, or connecting with professors and peers for assistance, mobile devices provide quick and convenient access to resources and support systems. This aspect is particularly beneficial for students who require immediate guidance or face challenges during their academic journey. Another notable point highlighted by students is that mobile technology is helpful in gaining knowledge. Mobile devices enable students to access a vast array of educational resources, including e-books, online articles, educational apps, and multimedia content. These resources facilitate self-directed learning, allowing students to explore and deepen their understanding of various subjects. Additionally, the ability to engage in online discussions, participate in virtual classrooms, and access educational platforms enhances students' opportunities for learning and knowledge acquisition. Overall, the feedback from students emphasizes the positive impact of mobile technology in the college setting. It highlights its role in organizing programs, providing immediate support, and facilitating knowledge acquisition. These aspects contribute to an enhanced learning experience for students, promoting efficiency, accessibility, and engagement in their academic pursuits.

Lectures perception (Focused Group Discussion)

During the focus group discussion (FGD), the majority of lecturers expressed their views on the positive aspects of mobile phone usage. They highlighted that mobile phones can be beneficial when the content being discussed necessitates their use; however, they also acknowledged that refraining from using them is acceptable when not required. While mobile phones offer advantages for learning, it is crucial to address the issue of students misusing technology. In leisure time or during breaks, it is considered appropriate for students to utilize mobile phones. Controlled and purposeful use of mobile phones in the classroom can yield fruitful results and integrating technology for teaching and research is essential. This necessary use of technology enhances the learning process rather than hindering it. In today's society, technology plays a vital role, and it has become widely utilized in both teaching and learning settings. Implementing policy reforms is essential to adapt to this technological shift. Students should be encouraged to share content through email and participate in online classes. The flexibility of studying in various environments, such as in classrooms, online, or virtually, should be available to them. To ensure productivity, it is essential to use technology

with awareness and understanding. Some lecturers find it beneficial not to use mobile phones during teaching sessions, as they can impact reading comprehension negatively. Moreover, the use of mobile phones has led to disruptive incidents during study sessions. As technology has both positive and negative aspects, striking a balance is crucial. Focusing on paper-based work can also prove beneficial in conjunction with conscious technology use, providing a balanced approach to learning and teaching.

Discussion and Interpretation

The study shows the number of students in each faculty - Management has the highest number of students with 90 (59.21%), followed by Education has 50 students (32.89%) and Humanities has the least number of students with 12 (7.89%). The students are divided into three age groups: 15-19, 20-25, and 26 and above. The majority of students fall within the age group of 20-25, comprising 91 students, while the 15-19 age group has 54 students, and the 26 and above age group has only 7 students. As per the data from the study, a significant majority of college students are in favor of bringing mobile phones to college, with a notable proportion having no objection. However, a minority of students do not support the idea. The data indicates that a majority of college students use mobile phones at college, while a significant minority does not use them. A small minority of students use mobile phones in the classroom, while a significant majority of students do not use them. A notable portion uses mobile phones in the classroom occasionally. Likewise, a significant number of students use their mobile phones for academic purposes such as studying, searching for subject-related information, and completing assignments during class. However, a smaller proportion of students engage in entertainment, social media, or camera/video usage in the classroom. There is a relatively divided opinion among students regarding the effectiveness of using mobile phones in the classroom. While a significant portion acknowledges the effectiveness or has no objections, a considerable number of students express disagreement or strong disagreement. The findings highlight the importance of considering multiple perspectives when incorporating technology into the classroom and the need for well-informed decisions and policies to ensure an effective and productive learning environment for all students.

There are several advantages of using mobile phones at college, as recognized by the students. These benefits encompass communication, access to information, academic assistance, knowledge acquisition, and convenience in various aspects of college life. Mobile phones provide a versatile toolset that supports learning, connectivity, and efficiency for students. However, it is essential to acknowledge that effective mobile phone usage also requires responsible and mindful practices to strike a balance between productivity and potential distractions. The study highlights the advantages of using mobile phones in the classroom, as recognized by students. The findings

emphasize the potential of mobile technology to enhance the learning environment, foster collaboration, and increase student engagement. Educators and educational institutions can leverage these insights to design effective and inclusive teaching practices that incorporate mobile phones in ways that positively impact students' learning experiences.

There are drawbacks and challenges of using mobile phones at college, as perceived by students. These findings underscore the importance of promoting responsible mobile phone usage and implementing appropriate policies to create a conducive learning environment that minimizes distractions and maximizes academic engagement and well-being. The data reflects the drawbacks and concerns that students associate with using mobile phones in the classroom. These findings emphasize the need for thoughtful and responsible integration of mobile technology in educational settings. By addressing these concerns and implementing appropriate strategies, educators can create an effective and supportive learning environment that leverages technology while promoting student engagement, well-being, and academic success.

It can be inferred that students perceive several positive aspects of mobile learning and teaching. These include enhanced learning opportunities, improved assignment quality, immediate support, increased interest and creativity, improved performance, staying up-to-date, accessibility to teachers, and time-saving benefits. These advantages highlight the potential of mobile learning to positively impact students' educational experiences and outcomes. However, students perceive several negative aspects associated with mobile phone usage. These include the misuse of smart phones, negative impact on exam performance, a potential relaxed atmosphere, addiction tendencies, decreased motivation, and reduced proactively in learning. These drawbacks emphasize the importance of promoting responsible and mindful mobile phone use to mitigate the adverse effects on students' academic progress and overall well-being.

The students' opinions regarding teachers' use of mobile phones in the classroom are divided. While a portion of students strongly agree, agree, or have no objection to teachers using mobile phones, a larger number of students disagree or strongly disagree with this practice. These differing opinions reflect the varying perspectives and concerns students have regarding the use of mobile phones by teachers in the classroom. A majority of students either disagree or strongly disagree with the idea of using mobile phones in the classroom. A smaller proportion of students agreed, have no objection, or strongly agree with the use of mobile phones. These differing perceptions highlight the varying viewpoints among students regarding the appropriateness and impact of mobile phone usage during classroom activities.

There is a majority of students either agree or strongly agree that mobile phones help in learning in the classroom. A smaller proportion of students has no objection or disagrees with this notion, and a very small number of students strongly disagree. These opinions highlight the positive

perception among students regarding the potential benefits of using mobile phones as a learning tool in the classroom. The majorities of students either agree or strongly agree that mobile technology is helpful for learning. A smaller proportion of students has no objection or disagrees with this notion, and only a very small number of students strongly disagree. These opinions reflect the positive perception among students regarding the potential benefits of using mobile technology for learning purposes.

Students expressed that mobile technology is helpful in organizing college programs, offering a convenient and efficient platform for communication and planning. This ease of coordination facilitates student participation in various college activities and events. Moreover, students find mobile technology valuable for immediate support, allowing quick access to course materials, assignment clarifications, and connections with professors and peers for assistance. The students' feedback underscores the positive impact of mobile technology in the college setting. Its role in organizing programs, providing immediate support, and facilitating knowledge acquisition contributes to an enhanced learning experience, promoting efficiency, accessibility, and engagement in students' academic pursuits. Likewise, most lecturers expressed positive views on mobile phone usage in the classroom, acknowledging its benefits when relevant to the content being discussed. They emphasized the need to address students' misuse of technology and encouraged purposeful use. Integrating technology for teaching and research was considered essential for enhancing the learning process. However, some lecturers found it beneficial not to use mobile phones during teaching sessions to avoid negative impacts on reading comprehension. Striking a balance between technology use and paper-based work was suggested to provide a balanced approach to learning and teaching. Implementing policy reforms and encouraging students to share content and participate in online classes were also highlighted to adapt to the technological shift in today's society. This study justified Connectivism theory, the information technology help to accumulate knowledge.

Conclusion

In conclusion, the discussions and interpretations of the data presented provide valuable insights into the perceptions and experiences of students and educators regarding mobile technology usage in education. While students recognize the advantages of mobile phones in college, including better organization, immediate support, and improved knowledge acquisition, challenges like misuse and distractions should be acknowledged and addressed. Effective integration of mobile technology can enhance the learning environment, but it requires a careful balance to prevent negative impacts on academic performance. Implementing appropriate policies and fostering responsible usage are essential for creating a conducive and productive learning environment. The data highlighted the importance of striking a balance between technology use and traditional methods, encouraging

purposeful integration, and addressing challenges through policy reforms. Additionally, the diverse opinions on teachers using mobile phones in the classroom highlight the importance of considering multiple perspectives to make informed decisions. As technology continues to play a vital role in education, it is essential to foster a favorable learning environment by leveraging its advantages while mitigating its potential drawbacks. Overall, the findings underscore the significant potential of mobile technology in education, but a thoughtful and purposeful approach is crucial to ensure its positive impact on students' learning experiences and academic outcomes. Apart from that the study also proved the Connectivism theory.

References

Ahmad, T. (2020). Student perceptions on using cell phones as learning tools: Implications for mobile technology usage in Caribbean higher education institutions. *PSU Research Review*, 4(1), 25-43. https://doi.org/10.1108/PRR-03-2018-0007

Ahmed, V., &Opoku, A. (2022). Technology supported learning and pedagogy in times of crisis: the case of COVID-19 pandemic. *Education and information technologies*, 27(1), 365-405.

Azad, T. (2023).Exploring the Use of Technology in the Classroom: A Qualitative Study of Students' and Teachers' Experience. *Qualitative Research in Educational Psychology*, 1(01), 23-32.

Becker, S. A., Cummins, M., Davis, A., Freeman, A., Hall, C. G., &Ananthanarayanan, V. (2017). NMC horizon report: 2017 higher education edition (pp. 1-60). The New Media Consortium.

Brubaker, A. T. (n.d.). Faculty perceptions of the impact of student laptop use in a wireless Internet environment on the classroom learning environment and teaching. 104 p. https://doi.org/10.17615/TWZF-AY78

collegenp. (2022, December 30). Retrieved june 23, 2023, from info@collegenp.com: https://www.collegenp.com/technology/technology-in-the-classroom/

Dawadi, S., Giri, R., & Simkhada, P. (2020).Impact of COVID-19 on the Education Sector in Nepal-Challenges and Coping Strategies [Preprint]. https://doi.org/10.31124/advance.12344336.v1

De Paola, M., Gioia, F., &Scoppa, V. (2023).Online teaching, procrastination and student achievement. Economics of Education Review, 94, 102378.

Devkota, N., Sigdel, A., Paudel, U. R., Upretee, S., &Basyal, D. K. (2023). Contribution of ICT on Small and Medium Enterprise Business Profitability: A Literature Review. Strengthening SME Performance Through Social Media Adoption and Usage, 106-118.

Dzogbenuku, R. K., Amoako, G. K., & Kumi, D. K. (2019). Social media and student performance: The moderating role of ICT knowledge. *Journal of Information, Communication and*

Ethics in Society, 18(2), 197-219. https://doi.org/10.1108/JICES-08-2019-0092

El-Haggar, N., Amouri, L., Alsumayt, A., Alghamedy, F. H., &Aljameel, S. S. (2023). The Effectiveness and Privacy Preservation of IoT on Ubiquitous Learning: Modern Learning Paradigm to Enhance Higher Education. *Applied Sciences*, 13(15), 9003.

Ghavifekr, S. &Rosdy, W.A.W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science*, 1(2), 175-191.

google. (2023, june 30). Retrieved june 30, 2023, from Google.com: https://www.google.com/ Pimmer, Christoph & Pachler, Norbert. (2014). Mobile learning in the workplace. Unlocking the value of mobile technology for work-based education.

Gul, S., &Bano, S. (2019). Smart libraries: an emerging and innovative technological habitat of 21st century. *The Electronic Library*, 37(5), 764-783.

Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022).Understanding the role of digital technologies in education: A review.*Sustainable Operations and Computers*, 3, 275-285. https://doi.org/10.1016/j.susoc.2022.05.004

Hernandez-de-Menendez, M., Escobar Díaz, C., & Morales-Menendez, R. (2020). Technologies for the future of learning: state of the art. *International Journal on Interactive Design and Manufacturing (IJIDeM)*, 14, 683-695.

Jo Shan Fu. (2013). ICT in Education: A Critical Literature Review and Its Implications. International Journal of Education and Development Using Information and Communication Technology, 9(Issue 1), 112-125.

Latif, M., Hussain, I., Saeed, R., Qureshi, M., & Maqsood, U. (2019). Use of Smart Phones and Social Media in Medical Education: Trends, Advantages, Challenges and Barriers. *Acta Informatica Medica*, 27(2), 133. https://doi.org/10.5455/aim.2019.27.133-138

Li, D. (2022). The Shift to Online Classes during the Covid-19 pandemic: Benefits, Challenges, and Required Improvements from the Students' Perspective. *Electronic Journal of E-Learning,* 20(1), pp1-18. https://doi.org/10.34190/ejel.20.1.2106

Lim, C. P., Ra, S., Chin, B., & Wang, T. (2020). Leveraging information and communication technologies (ICT) to enhance education equity, quality, and efficiency: case studies of Bangladesh and Nepal. *Educational Media International*, 57(2), 87-111.

Ministry of Education (2013). ICT in education: Master plan (2013-2017). Kathmandu: Ministry of Education.

Mohammadi, M., Sarvestani, M. S., & Nouroozi, S. (2020). Mobile Phone Use in Education and Learning by Faculty Members of Technical-Engineering Groups: Concurrent Mixed Methods Design. *Frontiers in Education,* 5, 16. https://doi.org/10.3389/feduc.2020.00016

Murshidi, G. A. (2017). Opportunities and Challenges of Mobile Learning That University Students Encounter in the UAE.*International Research in Higher Education,* 2(4), 18. https://doi.org/10.5430/irhe.v2n4p18

Nakshine, V. S., Thute, P., Khatib, M. N., & Sarkar, B. (2022).Increased Screen Time as a Cause of Declining Physical, Psychological Health, and Sleep Patterns: A Literary Review.*Cureus,* 14(10), e30051. https://doi.org/10.7759/cureus.30051

ODEC (2015).Open and Distance Education Centre in Higher Education. Retrieved from http://odectu.edu.np/index.php/introduction/

Parajuli, K. P. (2016). Mobile Learning Practice in Higher Education in Nepal.*Open Praxis,* 8(1), 41. https://doi.org/10.5944/openpraxis.8.1.245

Paudel, U. R., Devkota, N., Ghale, B. A., &Adhikari, K. (2018). Communication and gender in bachelor's degree students' adjustment process: A study in Kathmandu, Nepal. *Journal of Education,* Society and Behavioural Science, 27(4), 1-9.

Shrestha, S., Haque, S., Dawadi, S., &Giri, R. A. (2022). Preparations for and practices of online education during the Covid-19 pandemic: A study of Bangladesh and Nepal. *Education and information technologies,* 1-23.

Shriram, R., & Warner, S. C. (2010).Connectivism and the impact of Web 2.0 technologies on education. *Asian Journal of Distance Education*, 8(2), 4-17.

Stoian, C. E., F?rca?iu, M. A., Dragomir, G.-M., & Gherhe?, V. (2022). Transition from Online to Face-to-Face Education after COVID-19: The Benefits of Online Education from Students' Perspective. *Sustainability*, 14(19), 12812. https://doi.org/10.3390/su141912812

Thapaliya, S., & Pathak, K.P.(2022). Some Philosophical Paradigms and their Implications in Health Research: A Critical Analysis. *International Research Journal of MMC*, *3*(3), 9–17. https://doi.org/10.3126/irjmmc.v3i3.48627

Thapaliya, s., & Pathak K.P. (2022). The COVID-19 Effects on School Management and Governance: A Case Study of Harion Municipality, Nepal. *Sustainable Communities Review*, 15(1), 22-33. Retrieved from: http://scrjournal.org/SCR%20Spring%202022/Thapaliya%20&%20Pathak.pdf

Yunus, M. M., Nordin, N., Salehi, H., Sun, C. H., &Embi, M. A. (2013).Pros and Cons of Using IICT in Teaching ESL Reading and Writing. *International education studies,* 6(7), 119-130.

Zheng, P., & Ni, L. (2010). Smart phone and next generation mobile computing.*Elsevier.*