Research Article

Understanding Post-Graduate Students' Online Academic Help-Seeking Behaviours in India

Sanjib Malo

PhD Student, Department of Education (CIE), University of Delhi

Email: smalo@cie.du.ac.in

Abstract

In the post-COVID-19 era, the internet has become an integral tool for academia, encompassing teachers, educational researchers, educationists, students, and parents. It is widely utilised to solve various problems, learn innovative concepts in different subjects, and expand knowledge in areas of interest. Specifically, students at different educational levels frequently turn to the internet for assistance in understanding and improving their academic work. This behaviour aligns with the concept of online academic help-seeking, which is often described as a "self-regulating learning strategy" (Newman, 1994). To investigate the online academic help-seeking behaviours of postgraduate students of central universities in India, this study aimed to understand how students seek online academic help to meet their academic needs, which online channels they use, how they utilise these channels to accomplish academic tasks, and whether any external factors influence their online academic help-seeking behaviours. Adopting a qualitative-exploratory design, the study engaged 38 postgraduate students from diverse academic disciplines, selected through purposive sampling. Data were collected via an online questionnaire comprising both closed- and open-ended questions, and analysed using thematic analysis. The findings highlight that online academic help-seeking is a crucial learning strategy, enabling students to address academic challenges and enhance their subject understanding through varied online platforms, depending on their level of internet self-efficacy. However, external factors such as socioeconomic status and language barriers significantly impact students' ability to seek online academic help. The study emphasises the need for educational institutions to address these challenges, ensuring equitable access to online academic resources and preventing any student from being excluded from the benefits of digital learning.

Keywords: Online academic help-seeking, internet self-efficacy, external factors, postgraduate students, higher education in India

Introduction

It is evident that students need guidance and help from their teachers and other sources in order to flourish in their academic lives. However, research studies show that there are a significant number of students in the classroom who feel hesitant to ask their teachers for guidance and support in certain areas. Among different factors, the fear of being alienated from their academically successful peer groups is also one that causes hesitancy (Karabenick, 2003; Peeters et al., 2020; Ryan & Pintrich, 1997). Sometimes, it leads them to be victims of an inferiority complex situation. This hesitation can hinder their learning performance and achievement, as they may struggle to effectively grasp the concepts being taught (Baker, 2017).

The rapid advancement of information and communication technology (ICT) in the era of globalisation has opened up

new possibilities and perspectives for individuals in various sectors (Mäkitalo-Siegl et al., 2011). As a consequence, the internet has become a valuable tool for getting effective assistance and accomplishing tasks efficiently (Comer, 2019). In recent times, it has played a significant role for everyone involved in academia, including teachers, educational researchers, educationists, students, and parents (Mouratidis & Papagiannakis, 2021). It serves as a platform to address a wide range of problems, explore innovative concepts in various subjects, and expand knowledge in areas of interest (Comer, 2019). Through the Internet, students get access to a vast array of online learning resources, platforms, and communities that can provide the help and support they need (Zimmerman, 1990). Online channels such as educational websites, forums, virtual tutoring platforms, and social media networks allow them to seek assistance beyond the confines of the classroom (Cheng & Tsai, 2011). As a result, they can connect with experts, educators, and peers from diverse backgrounds and locations, expanding their perspectives and learning opportunities (Comer, 2019). This behaviour is often described as a *"self-regulating learning strategy"* of the students (Newman, 1994) that promotes independent problem-solving skills, and fosters a sense of autonomy in students' academic pursuits (Newman, 1994; Zimmerman, 1990). It reflects the metacognition and regulation skills of the students (Aleven et al., 2003; Gonida et al., 2019) and provides an alternative approach for them to comprehend topics they may feel uncomfortable asking their teachers about in a traditional classroom setting.

By actively engaging in the self-regulating learning strategy, students can independently seek clarification and support from a wide range of resources available on the internet (Tseng & Chai, 2011). Numerous studies conducted globally have demonstrated a relationship between students' online academic help-seeking behaviours and their internet self-efficacy, which refers to their belief in their ability to exert effort and complete tasks effectively online (Cheng & Tsai, 2011; Ding & Er, 2018). Through online academic help-seeking, students can bridge knowledge gaps, gain new perspectives, and ultimately achieve better academic outcomes (Tseng & Chai, 2011). A study conducted by Ding and Er (2018) found that students with high internet self-efficacy are more likely to navigate online platforms, access appropriate sources of assistance, and effectively accomplish their academic tasks. By leveraging their internet self-efficacy, they can actively seek help and support online, tailoring their learning experiences to their specific needs (Cheng & Tsai, 2011). This empowerment enables them to become independent learners, develop critical thinking skills, and enhance their problem-solving abilities. Hence, it is crucial for students to cultivate their internet self-efficacy and utilise online platforms effectively to maximise the benefits of online academic help-seeking in their learning journey (Ding & Er, 2018).

At present, almost every higher education institution in the world has adopted the blended learning method to encourage learners to be self-regulated (Fan & Lin, 2022). Influenced by this method, students have begun to take online help from different platforms to do well in their academic work (Hao et al., 2017). It is to be mentioned that when there were no provisions for finding adequate quality academic materials in the library, learners faced a lot of problems understanding certain phenomena and matters related to their education, but now they are able to access a myriad of academic readings to be academically self-reliant. This

virtual assistance helps them develop their knowledge and understanding in a broader way in the era of globalisation to become competent in the global academic as well as economic arenas (Ding & Er, 2018).

In a developing country like India, where 68.8 per cent of the total population, or 833 million people, lives in village areas (Census of India, 2011), the influence of online learning among students pursuing higher education is very significant. They are now no longer only accustomed to reading printed texts but are going beyond them (Naik et al., 2021). Since this is an era of globalisation and advanced science and technology where there is no scarcity of quality learning materials over the Internet, students seek online academic help using their internet self-efficacy from different channels to do their studies well (Fan & Lin, 2022). It helps them understand things better and become knowledgeable, productive, and self-reliant.

Literature Review and Research Questions

Student Help-Seeking

When a student asks his/her teacher for clarification about their classroom assignment, this is considered a kind of help-seeking behaviour (Qayyum, 2018). Help-seeking is a cognitive and metacognitive activity that entails a number of acts, such as recognizing the need for assistance, explicitly articulating the difficulties, and formulating inquiries to ask for help (Doebling & Kazerouni, 2021; Newman, 2008). It is a very important component of self-regulated learning (Gall, 1981).

A student can seek both non-academic and academic help (Qayyum, 2018). Non-academic help implies seeking assistance in different fields other than academia, such as administration, personal life, career-building, technology, human relationships, etc. On the other hand, academic help refers to the assistance that students seek from their teachers, peer groups, and other academicians in the field of academia to enhance their learning experiences.

Academic help-seeking behaviours are crucial for students' academic excellence, as they can access support through diverse online and offline channels. Therefore, while defining the concept of academic help-seeking, Qayyum (2018) opines that "it is one among many learning strategies students use to improve their learning, including studying more, organising one's studying, note-taking, outlining notes and readings, reviewing, choosing engaging assignments, and managing expectations, including lowering aspirations" (p. 1). Academic help-seeking is a key behaviour that can help both face-to-face and online students learn more effectively (Qayyum, 2018). It is a process of being aware of the need for assistance, deciding that assistance is required, locating helpers, eliciting assistance, and assessing the assistance (Aleven et al., 2003; Cheng & Tsai, 2011).

There are a variety of factors that affect the decisions of students about their academic help-seeking behaviours, such as the learner's motive (Karabenick & Knapp, 1991), the perception of menace to their self-esteem from aid resources (Karabenick, 2003), and their faith in the resource's utility (Price et al., 2017).

Online Academic Help-Seeking

Online academic help-seeking is described as the spontaneous request for assistance from others over the Internet (Cheng & Tsai, 2011). It refers to getting help using internet resources such as search engines, emails, or online platforms like social network sites and different educational mobile applications with the goal of solving

academic challenges (Hao, 2016). As a result, looking for online material for academic reasons has progressively emerged as a significant sort of help-seeking activity on the Internet (Fan & Lin, 2022). When students effectively utilise their self-regulatory skills to select appropriate online academic resources, they can reap significant benefits, leading to an enhanced learning experience (Doebling & Kazerouni, 2021).

Researchers have looked into how the internet environment might assist learners in improving their aid-seeking tendencies (Mäkitalo et al., 2011; Puustinen et al., 2011). Mäkitalo-Siegl et al. (2011) discovered, for example, that the web-based learning environment had a favourable impact on learners' help-seeking activities, particularly when there was a low degree of guidance on the teacher's part. With regard to online academic help-seeking, Cheng and Tsai (2011) identified three types of student behaviours: (1) information searching (for example, surfing Google or similar search engines for information to address academic issues); (2) formal query (for example, requesting support from teachers or tutors through email); and (3) informal query (for example, making virtual requests for academic assistance to peers or unknown academicians).

Nevertheless, accessing online academic support necessitates internet self-efficacy, as students require confidence in their ability to navigate and utilise digital resources effectively. Without this proficiency, students may encounter difficulties in locating and leveraging suitable online academic help, potentially hindering their academic success.

Internet Self-Efficacy

Internet self-efficacy is commonly defined as a student's confidence in his/her ability or expected outcomes in an Internet-based learning environment (Tsai et al., 2011). Students with a high level of internet self-efficacy performed better in online learning than those with a low level of internet self-efficacy (Kuo et al., 2020). Studies conducted earlier have found that students' internet self-efficacy is directly tied to their prior internet experience (Joo et al., 2000; Wu & Tsai, 2006). When students had a favourable experience in online settings—for example, experiencing constructive criticism or having a sense of success on the Internet—they would possess higher levels of positive confidence and attitude towards utilising the Internet (Chu & Tsai, 2009; Wu & Tsai, 2006). Liang and Tsai (2008) found a significant positive correlation between internet self-efficacy and students' preferences for internet-based learning environments. Specifically, their study revealed that students with higher levels of internet self-efficacy exhibited a stronger inclination towards exploratory learning, preferring to investigate information from diverse sources and engage in online inquiry-based learning activities.

The Surge in Online Learning due to the COVID-19 Pandemic

The rapid advancement of information and communication technologies has significantly transformed the landscape of teaching and learning. The COVID-19 pandemic, which disrupted conventional face-to-face education, compelled thousands of higher education institutions worldwide to cease in-person operations and adopt online learning as a primary mode of instruction (Abdelfattah et al., 2023; Oraif & Elyas, 2021). During this period, online education emerged as the most accessible format for higher education. Students, educators, and researchers were required to swiftly transition to digital platforms, incorporating online courses, virtual classrooms, and electronic textbooks into their academic

routines. This shift demanded that educators exhibit readiness to embrace online learning as a viable alternative to traditional pedagogical methods.

Duffin's (2023) research reveals that 65 per cent of surveyed educators expressed support for integrating open educational resources into their teaching practices, while 63 per cent advocated for competency-based education systems. The global health crisis has underscored the necessity for a transition from traditional teaching approaches—such as lectures, seminars, and laboratory work—toward online education. However, despite the apparent benefits, the adoption of online learning has not been without challenges.

In the context of India, the implementation of online learning is significantly influenced by socio-economic disparities. Research by Goswami et al. (2021) highlights the difficulties faced by socially and economically marginalised groups—such as Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), women, and students from rural areas—during the shift to online education. Key barriers include the high cost of high-speed internet, inadequate digital infrastructure, and poor connectivity (Goswami et al., 2021; Ministry of Human Resource Development, 2020). Malo (2021) corroborates these findings, emphasising the disproportionate challenges faced by marginalised students in accessing online education. Additionally, Vashistha et al. (2024) report that students from lower socio-economic backgrounds often lack the necessary experience to effectively use digital devices, further hampering their educational outcomes.

Despite these challenges, many students pursuing higher education in India continue to leverage online resources to enhance their academic performance. However, in this context, there is a dearth of qualitative research exploring how students actively engage with online platforms to improve productivity in their educational pursuits. Recognizing this gap, the present study aims to investigate this underexplored dimension of online learning within the Indian context.

Research Questions

The research questions guiding this study were: How do students pursuing higher education in India seek online academic help to meet their academic needs? What types of 'online channels' (Cheng & Tsai, 2011)—such as e-tutor systems, social networking sites, and other platforms—do they utilise for this purpose? How do they leverage these channels to complete their academic tasks? Additionally, are their online academic help-seeking behaviours influenced by external factors? These questions have been explored through a flexible approach in this research.

Referring to the categorization of online academic help-seeking behaviours proposed by Cheng and Tsai (2011), this study has aimed to understand India's central university's postgraduate students' online academic help-seeking behaviours. The central universities, also known as public universities, are under the responsibility of the Ministry of Human Resource Development (now known as the Ministry of Education), Union Government of India. It was established by an Act of Parliament (Ministry of Human Resource Development, Government of India, 2012). Here, students from different parts of the country come to study, irrespective of caste, religion, gender, or economic condition.

Methodology

Research Design

The study adopted a qualitative-exploratory design to gain a comprehensive understanding of the online academic help-seeking behaviours of postgraduate students at a central university in India. Exploratory research requires a qualitative approach to understanding phenomena (Denscombe, 2003), as it provides in-depth insights, flexibility, and a focus on participants' context and experiences. This approach enables the exploration of underlying reasons and dynamics, contributing to future research and theory development.

Participants

Sample Background and Selection:

The study included a total of 38 postgraduate students as participants. The selection of participants was carried out among diverse academic disciplines within different central universities in India, chosen through a purposive sampling technique.

Table-1: Background of the Participants

Category	Sub-category	Number of Participants (n)	Percentage (%)
Total Participants		38	100
Academic Discipline	Science	11	28.95
	Arts	24	63.16
	Commerce	3	7.90
Socioeconomic Background	Middle Class	25	65.79
	Lower Middle Class	13	34.21
Geographical Location of Participants	Delhi	15	39.47
	Uttar Pradesh	3	7.89
	West Bengal	4	10.53
	Bihar	6	15.79
	Maharashtra	1	2.63
	Assam	8	21.05
	Arunachal Pradesh	1	2.63

Gender Distribution:

Among the participants, 21 were male and 17 were female. This distribution indicates a slight imbalance towards male participants, with males comprising approximately 55.26 per cent of the sample, while females constituted approximately 44.74 per cent.

Age Range:

The participants' ages ranged from 20 to 25 years, corresponding to young adulthood. This stage is considered a critical university developmental age, characterised by developmental tasks focused on experiencing and managing independence and autonomy (Alesi et

al., 2023). This age range was chosen to ensure that the participants were in a similar phase of life, primarily focused on their postgraduate studies. By limiting the age range, the study aimed to minimise potential variations due to significant age-related factors.

Internet Usage Habits:

A significant majority of respondents (74 per cent) reported spending more than 21 hours per week on internet usage, while the remaining proportion (26 per cent) allocated less than 21 hour weekly to online activities.

Data Collection Tools and Procedure

To address the research questions, an online questionnaire was developed to gather pertinent data. The questionnaire comprised a mix of closed- and open-ended items. The closed-ended questions elicited demographic information, including gender, age, academic discipline, geographical location, socioeconomic status, and internet usage patterns, thereby providing a comprehensive participant profile. Conversely, the open-ended questions were designed to facilitate in-depth, qualitative responses, enabling participants to express their thoughts, opinions, and experiences regarding online academic help-seeking behaviours, uninhibited by predetermined response categories. This dual approach yielded a rich dataset, combining quantitative and qualitative insights for analysis.

To facilitate the data collection process, a digital platform was employed, which is a Google Form. Participants were provided with a unique link to the Google Form, which they could access through their internet browser on any device, such as laptops, smartphones, or tablets. Upon opening the link, participants were presented with the questionnaire, where they could read each question and provide their responses in the provided text boxes. This ensured that participants could complete the questionnaire at their own convenience and from any location with internet access. Once participants completed and submitted the form, their responses were automatically received by the researcher.

The data collection period spanned nearly four months, allowing participants sufficient time to respond to the questionnaire. The extended duration ensured that a diverse range of participants could contribute their insights and experiences, potentially enhancing the representativeness of the sample and enriching the data collected.

Data Analysis

This study is grounded in Cheng and Tsai's (2011) categorization of online academic help-seeking behaviours, which served as the foundation for coding the collected data. However, while coding the data, a few additional themes emerged that extended beyond Cheng and Tsai's framework, including the impact of socioeconomic factors on digital access and the influence of language on online academic help-seeking. The participants provided responses in either English or Assamese. Grammatical errors in English responses were corrected, while Assamese responses were translated into English. To capture these nuances, the researcher employed Thematic Analysis (Aronson, 1994), a qualitative research method suited for identifying, analysing, and reporting patterns and themes within data (Javadi & Zarea, 2016). This analysis method helped uncover meaningful insights and understand underlying themes or patterns that emerge from participant responses (Braun & Clarke, 2012). It also allowed to integrate both a priori codes (based on Cheng and Tsai's

(2011) categorization) and emergent themes, providing a comprehensive understanding of students' online academic help-seeking behaviours.

Findings and Discussion

The present generation is living in an era of advanced science and technology. Individuals, from students to teachers, academicians to scientists, businessmen to entrepreneurs, all take advantage of information and communication technology (ICT) to get their stuff done effectively (Player-Koro, 2012; Sarkar, 2012; Uluyol & Şahin, 2014). In this process, the internet—a worldwide system of computer networks—plays a pivotal role, without which it is very difficult to survive in this era (Comer, 2019). The Internet helps us get things done quickly and very effectively with ease, be it academic, personal, social, economic, or business-related issues, etc. (Castells, 2001). This section analyses how and why postgraduate students in India use the Internet for online learning, specifically examining their online academic help-seeking behaviours under various themes.

Information Searching

Information searching is the first category of online academic help-seeking behaviours of a student as classified by Cheng and Tsai (2011). The data that came out of the study paints a great picture of how the students pursuing their postgraduate courses in different subjects at the central universities in India took to the internet to search for information on certain topics to get their doubts clarified and develop their understanding (Bailey & Lee, 2020; Metzger, 2003; Tanveer et al., 2020). A few of their responses in this regard are depicted below, giving them pseudonyms.

Respondent: Anand

> "I use Google most of the time to seek information on different subjects. For example, if I need to know about a certain topic that is not clearly given in the book to which I am referring in my course, I type the keywords in the search engine of Google and get reading materials there. It helps me a lot to clear up my doubts and improve my understanding of the topic."

Respondent: Rohit

> "Sometimes we do not find some information appropriately in books, and for this we have to rely on other sources. To fill this gap, I take help from the internet. Most likely, I use Google, YouTube, and Google Scholar to find the needed information. It saves my time and energy. A student like me greatly benefits from this process."

Respondent: Chahana

> "When I encounter difficulties downloading articles from Google Scholar, I rely on our university's E-Library system to access necessary reading materials. The E-Library has subscriptions to numerous international publishers and journal databases. If I still face challenges, I supplement my searches using alternative platforms: LibGen, Anna's Archive, Z-Library, ProQuest, DuckDuckGo, and Sci-Hub."

Respondent: Upasana

> "I take help from YouTube videos to understand the topics of my syllabus that seem difficult to me to understand by reading. On YouTube, you are able to find a

lot of academic videos on almost all topics that you want to learn about. It is the best platform for me to understand anything, be it academic or current issues, etc."

Respondent: Anupam

"When I need to learn about a specific topic, I instantly turn to ChatGPT. It provides a comprehensive overview, allowing me to grasp the essence instantly. ChatGPT has been invaluable in clarifying various concepts. Additionally, I utilise ChatGPT to refine my sentence structures for academic writing, which significantly enhances the standard of my language."

Respondent: Dhiraj

"Alongside ChatGPT, I also utilise Meta AI and Gemini for my studies. These platforms prove helpful, but I regularly verify the authenticity of the data they provide, as they occasionally supply inaccurate information."

The platforms (search engines and online resources) used by the participants (students) of the study include widely known ones such as Google, Google Scholar, and YouTube, as well as specific resources like the E-Library of the university, ChatGPT, Meta AI, Gemini, E-Journals, Library Genesis, Anna's Archive, Z-Library, ProQuest, DuckDuckGo, and Sci-Hub. These platforms cater to the specific academic needs of the students, including providing access to scholarly journals, research papers, books, and other resources (Cheng & Tsai, 2011). They offer participants the opportunity to delve deeper into their subjects and obtain critical understanding through reliable and comprehensive materials (Culduz, 2024; Simamora et al., 2020). Although AI chatbots like ChatGPT, Meta AI, and Gemini offer valuable insights, their limitations necessitate careful evaluation (Schei et al., 2024). Students must critically assess and verify information through multiple sources to avoid potential pitfalls, such as outdated data or biased perspectives, ensuring academic integrity and reliability (Annuš, 2024; Dwivedi et al., 2023).

When asked about the availability of study materials on the internet, most participants stated that Western academic books and articles are easily accessible online. However, they noted that the same may not be true for Indian academic resources. In this regard, two participants' responses are given below.

Respondent: Amir

"On the Internet, you can find as many books as you want freely, but most of them are written by foreign authors and published abroad."

Respondent: Preeti

"It's really difficult to download books freely from the Internet that are published by Indian authors in our country. To clarify my confusion regarding certain topics, therefore, I go through Western writers' books. They are easily available on Google."

When selecting online reading resources, participants consider two key aspects: surface-level factors such as title, abstract, and writing style, and credibility indicators like peer-reviewed sources from renowned publishers (e.g., SAGE, Taylor & Francis, Springer) and indexing in databases like SCOPUS, Web of Science, or UGC-CARE. However, some participants expressed concerns about the authenticity of freely available online resources, questioning their reliability without proper in-text citations and peer review (Kankam et al., 2024; Tang et al., 2021). Therefore,

they emphasise the importance of verification, highlighting the need for critical evaluation of online information to ensure academic integrity. Their responses are cited below.

Respondent: Ashish

> "When I need in-depth information on a specific topic, I prefer reading relevant articles. To determine relevance, I review the article's abstract to assess its alignment with my academic needs. If the abstract meets my requirements, I proceed to read the article; otherwise, I discard it. I particularly value articles available online that include proper citations, as this ensures the authenticity and credibility of the information."

Respondent: Sanjana

> "I prefer research journals from renowned publishers like SAGE, Taylor & Francis, and Springer for my academic purposes, particularly those indexed in databases such as SCOPUS, Web of Science, or UGC-CARE."

While most participants reported not facing difficulties in finding information online, a few mentioned encountering challenges. In this case, one of the participants, *Tina*, reveals,

> "Most of the time, I face difficulty getting access to authentic and quality reading materials. Because of this, I get unmotivated to study."

According to Kuo et al. (2020), students' low internet self-efficacy could be the cause of this difficulty. To overcome these challenges, they need guidance from peers or teachers in the classroom on how to find authentic learning materials on the internet (Ong & Quek, 2023).

Formal Query

According to Cheng and Tsai (2011), formal query is the second category of a student's online academic help-seeking behaviours. This category refers to students seeking support and clarification from their teachers or e-tutors through virtual multi-media platforms (Cheng et al., 2013; Lee et al., 2014; Liu, 2017; Martín-Arbós et al., 2021). The communication between the student and the teacher in this context is considered formal (Martín-Arbós et al., 2021).

In the study, participants were presented with a questionnaire that focused on the concept of "formal query" as proposed by Cheng and Tsai (2011). The collected data revealed that most of the students do seek help from their teachers and e-tutors to enhance their understanding of specific topics. When faced with challenges in finding authentic and relevant materials for their subjects, students turn to their teachers for assistance, and the teachers provide them with the necessary support (Doebling & Kazerouni, 2021). From this perspective, the participants responded,

Respondent: Rakesh

> "Sometimes when I don't find appropriate materials on the internet, I ask the subject teacher to provide us with the readings. He/she shares them through email or WhatsApp."

Respondent: Vivek

> "Whenever I have some doubts or queries regarding certain topics, I send texts on my e-teacher's WhatsApp or mail him on the same, seeking support. He or she then shares quality materials over there. It is really very helpful."

In this study, it was found that participants predominantly utilise platforms such as WhatsApp and Email to seek virtual assistance from their teachers. WhatsApp, in particular, provides an instant messaging platform that allows for quick and both synchronous and asynchronous communication, enabling students to receive timely responses and support from their teachers (Bouhnik & Deshen, 2014; Reeves et al., 2019). These communication tools offer convenient and direct channels for students to reach out to their teachers, ask questions, and seek clarifications regarding specific subject matters (Bouhnik & Deshen, 2014; Cheng & Tsai, 2011; Reeves et al., 2019; Sharma et al., 2011). This interaction fosters a supportive learning environment where teachers act as mentors and facilitators, helping students receive timely responses, even when mentors may not be available for immediate face-to-face interaction. It saves time and allows students to make progress on their projects without significant delays.

Few participants mentioned that in cases where a larger group of students faces challenges understanding a particular subject, virtual audio-visual meeting applications like Google Meet and Zoom are commonly employed by teachers. In this regard, one of the study's participants, *Shruti*, says,

> "When we have difficulty understanding certain contents of the syllabus, we ask our teachers to take a class on the same. Sometimes, they take classes in virtual mode using Google Meet or Zoom."

Platforms like Google Meet and Zoom offer features such as video conferencing, screen sharing, and real-time interaction that facilitate effective communication and collaboration between teachers and students (Adenegan & Abiodun, 2018; Wiyono et al., 2021). By leveraging these applications, teachers can conduct virtual classes, hold discussions, and provide explanations in a more interactive and engaging manner. This form of virtual communication facilitates direct and personalised support, enabling mentors to address specific challenges or provide suggestions for improvement (Wiyono et al., 2021). This promotes a sense of inclusivity and allows students to actively participate in the learning process (Nuraziza et al., 2021). Therefore, it can be anticipated that the use of virtual audio-visual meeting applications not only aids in addressing group difficulties but also helps in establishing a friendly rapport between students and teachers.

Furthermore, some participants mentioned that when working on projects or dissertations, they often discuss any issues or challenges they encounter with their mentors through virtual means like WhatsApp, email, or audio-visual meeting applications. One of the participants, *Satish*, responded,

> "I remember that when I was doing my dissertation work, several times I took guidance from my mentor through Email to appropriately analyse the collected data. You can't meet your mentor every day due to his engagement at various works and in this case, online channels like Email or WhatsApp play a significant role."

These platforms provide convenient and efficient channels for students to communicate with their mentors and receive timely guidance and support (Adenegan & Abiodun, 2018; Bouhnik & Deshen, 2014; Reeves et al., 2019; Wiyono et al., 2021). By utilising virtual means of communication, students can benefit from the expertise and guidance of their mentors without the constraints of physical proximity (Sofi-

Karim et al., 2022). They can maintain a continuous flow of communication, seek clarifications, and receive valuable input throughout the project or dissertation process. This virtual engagement fosters a collaborative and supportive relationship between students and mentors, ensuring that students receive the necessary guidance to excel in their academic work (Ratten, 2023).

Informal Query

It is interesting to note that according to Cheng and Tsai (2011), informal queries are identified as the third category of online academic help-seeking behaviours. This category refers to students seeking virtual assistance from their peers or unknown academicians to accomplish their academic tasks in a convenient manner. The data collected through the questionnaire revealed that a significant portion of participants, approximately 82 per cent, engaged in seeking virtual help from their peers or unknown academicians through various online channels. They mentioned several online channels that they commonly use for informal queries, such as Email, Facebook, LinkedIn, WhatsApp, ResearchGate, Academia, Unacademy, and Byju's, among others. They utilise these platforms to connect with subject specialists, authors, and academicians worldwide (Gao, 2022; Lee et al., 2023) . Some participants expressed that they rely on a few of these channels to obtain high-quality research articles that are not freely available on the internet, expanding their access to diverse knowledge sources. In this perspective, Aditi utters,

> "When I am not able to download an essential article for free on the internet, I send a request to its original author on ResearchGate to share it with me. This way, I collect the articles that I want to read for my academic benefits."

The data revealed that participants found value in engaging with global academics through informal queries. A similar finding was also reported in the study conducted by Green (2018). These interactions provided them with insights into the education systems of different countries and valuable information about admission procedures for traditional and professional higher education courses. One of the respondents, Riya, says,

> "For my further studies, I am these days having interaction with different professors around the globe with the help of my LinkedIn account. They show cooperation regarding various aspects of academia. At first, I didn't have any idea how to get admission to a foreign university with a scholarship, but thanks to the LinkedIn platform, I now have some basic ideas regarding the same. It has helped me a lot."

This aspect underscores the significance of connecting learners and teachers from around the world, as it fosters social harmony and contributes to the holistic development of individuals. By interacting with academics from diverse backgrounds and geographical locations, participants gain a broader perspective on various education systems (Zalli, 2024). They can learn about the unique features, approaches, and practices employed in the educational institutions of different countries. This exposure to diverse educational systems enhances participants' understanding of global perspectives and promotes a more inclusive and comprehensive outlook on education. Additionally, participants acquire information about the admission procedures for traditional and professional higher education courses in different countries. This knowledge can be particularly valuable for those considering pursuing further

studies abroad or seeking insights into alternative educational pathways. Engaging with global academics allows participants to gather first-hand information and advice, helping them make more informed decisions regarding their academic pursuits and future career paths (Fabriz et al., 2021).

Participants in the study expressed a strong interest in discussing academic matters with peers from different locations, highlighting the positive impact of such interactions. Engaging in discussions with peers from diverse backgrounds was seen as a valuable opportunity to enhance their understanding of various subjects and academic topics. One of the participants, Ashish, responds,

> "I come across different research scholars on platforms like LinkedIn, Academia, ResearchGate, and Facebook, with whom I can discuss various academic issues. Sometimes, we can collaborate on research papers to get them published in reputed journals."

Another respondent, Aditya, elicits,

> "I use Email and WhatsApp most of the time to convey my basic academic doubts to my Research Supervisor so that I can get clarification within a short span of time."

Interacting with peers from different locations brings together different perspectives, experiences, and knowledge. Participants find that engaging in discussions with peers from diverse backgrounds provides them with new insights, alternative viewpoints, and unique approaches to understanding and tackling academic challenges (Bjøntegaard, 2015; Virkkula, 2016). These interactions broaden their understanding of various subjects, expose them to different methodologies and perspectives, and enrich their overall learning experience. Furthermore, participants emphasise that collaborative work on projects and research papers can be facilitated through these interactions. Working together with peers from different spaces enables them to pool their diverse expertise and resources, leading to more comprehensive and well-rounded outcomes. By combining their knowledge, skills, and perspectives, participants are able to approach academic tasks from multiple angles and produce more robust and innovative work. Collaborating with peers from different locations also fosters valuable cross-cultural exchanges and interpersonal skills that help them learn each other's cultural backgrounds, communication styles, and collaborative practices (Sahadevan & Sumangala, 2021). These interactions enhanced their ability to work effectively in diverse teams, appreciate different perspectives, and develop intercultural competence.

Impact of Socioeconomic Factors on Digital Access

Socioeconomic factors significantly influence students' digital access (Al-Ajeely et al., 2023; Zdravkov, 2024). Specifically, income level, educational background, geographic location, and family structure and resources impact affordability, availability, and proficiency in utilising digital technologies (Joshi et al., 2024). This study revealed that most students from lower-middle-class backgrounds face a digital divide due to their households' low income and poor internet connectivity, both at home and in institutions. This limitation hinders their online learning opportunities, digital literacy development, and ultimately, academic performance, perpetuating unequal educational outcomes (Afzal et al., 2023). The findings underscore the need for targeted interventions. The following responses from respondents

illustrate this concern:

Respondent: Dilip

> "I don't have a laptop for my academic pursuits. Financial hurdles create numerous challenges in accessing quality education."

Respondent: Bidisha

> "I live in a remote village with poor internet connectivity, making it challenging for me to utilise virtual platforms like YouTube, Google Meet, and Zoom, which hampers my online learning."

Studies conducted by Korkmaz et al. (2022) and Muthuprasad (2021) have also reported similar findings, highlighting the need to bridge the digital divide. To achieve this, essential measures such as affordable digital infrastructure, digital literacy programs, accessible educational resources, and community-based initiatives must be ensured. Educational institutions should also play a vital role in this context by providing high-speed internet on campus and adequate computers with subscriptions to renowned publishers and databases (Ministry of Human Resource Development, 2020; Simamora et al., 2020). Research has shown that institutions offering these amenities significantly enhance students' academic performance (Simamora et al., 2020). By addressing socioeconomic disparities and promoting equitable digital access, educators and policymakers can foster an inclusive and supportive learning environment for all students.

Influence of Language on Online Academic Help-Seeking

Language plays an indispensable role in students' academic success (Met, 2008). Proficiency in language significantly affects students' ability to articulate their needs, comprehend online content, and engage with digital learning materials (Ramadan Elbaioumi Shaddad & Jember, 2024). Students whose home language differs from the dominant language of online educational resources may encounter significant obstacles in seeking online academic help. These obstacles can lead to misunderstandings, misinterpretations, or incomplete comprehension of academic instructions. This study's findings support this notion, as reflected in the responses of several participants:

Respondent: Pranjit

> "Having studied in a vernacular medium until graduation, I now face difficulties adjusting to English-language academic materials. Choosing the right reading materials is challenging, and I often struggle to express myself in English. Academic English proves especially daunting."

Respondent: Suchita

> "I face difficulties seeking online academic help due to my limited knowledge of English vocabulary. If reading materials were available in the vernacular medium, I would have benefited immensely."

The excerpts demonstrate that language limitations can deter students from seeking online help, potentially jeopardising their academic success. The National Education Policy 2020 recommends placing special focus on making content available in all Indian languages, ensuring that digital resources reach teachers and students in their respective mediums of instruction whenever possible (Ministry of Human Resource Development, 2020). Research suggests that students from linguistically diverse backgrounds can benefit significantly from:

Multilingual online resources, culturally sensitive support services, and language-specific academic guidance (Kroll & Dussias, 2018). In this regard, teachers, therefore, should receive rigorous training in learner-centric pedagogy and in developing high-quality online content using teaching platforms and tools. The teacher's role should be highly emphasised in facilitating active student engagement with both the content and their peers (Ministry of Human Resource Development, 2020).

Implications for Higher Education

The study focuses on the online academic help-seeking behaviours of postgraduate students at India's central university. The findings suggest that online academic help-seeking is considered a *"self-regulating learning strategy"* (Newman, 1994), which implies that students actively take initiative in seeking assistance to support their learning process. The study highlights the significance of various online channels that students use for help-seeking purposes. These channels are reported to play a crucial role in students' help-seeking behaviours, indicating their importance as valuable resources for academic support (Cheng & Tsai, 2011).

Given the study's findings, higher education institutions can take steps to support and encourage students' use of various online channels for academic help-seeking. They should stay updated with the evolving technological landscape and continually assess the effectiveness and appropriateness of the recommended online channels for academic support.

The higher educational institutions can consider implementing strategies to scaffold and foster students' engagement with these platforms outside the traditional classroom setting so that students gain a better understanding of their academic subjects (Qayyum, 2018). For example, while search engines and online platforms offer quick and convenient access to information, the higher education institutions can help students develop effective search strategies by supporting their digital literacy. This may include using appropriate keywords, understanding search algorithms, and employing advanced search techniques to locate relevant and reliable sources. Students should also be encouraged by their educational institutions to critically evaluate the information they find and ensure its credibility and relevance to their studies.

Students who struggle with English should be made aware of alternative ways to access reading materials in their vernacular medium. In this regard, institutions can prioritise developing content in all Indian languages to ensure accessibility in students' mediums of instruction. Additionally, teachers should receive rigorous training in learner-centric pedagogy and the creation of high-quality online content using teaching platforms (Ministry of Human Resource Development, 2020).

Conclusion and Future Work

The study highlights the importance of online academic assistance as a learning strategy for students. It emphasises that students, based on their internet self-efficacy, employ a variety of online channels to seek help and address their academic concerns. This process not only aids in better understanding the subject matter but also facilitates knowledge expansion. Additionally, it fosters a sense of social harmony among learners and teachers, contributing to overall personality development.

However, this study acknowledges certain limitations, particularly as digital alternatives continue to expand. The primary aim of this qualitative study

was to understand how postgraduate students from Indian central universities seek online academic help to make their learning fruitful rather than to draw broad conclusions. Hence, the findings of the study may not be generalizable to students enrolled in state-run universities or other levels of higher education, such as undergraduate programs. This is a limitation of this study.

To gain a more comprehensive understanding of students' online academic help-seeking behaviours, future studies may encompass diverse levels of higher education, including undergraduate and postgraduate students, in both state and central universities. This broader scope would offer a nuanced understanding of their needs, enabling more targeted interventions to enhance learning experiences.

References

Abdelfattah, F., Alawi, A. M. A., Dahleez, K. A., & Saleh, A. E. (2023). Reviewing the critical challenges that influence the adoption of the e-learning system in higher educational institutions in the era of the COVID-19 pandemic. *Online Information Review*, 47(7), 1225–1247. https://doi.org/10.1108/oir-02-2022-0085

Adenegan, K. E., & Abiodun, O. A. (2018). Usage of Zoom cloud meeting for virtual meetings and e-learning. In: *Sustainable Development Goals Paradigm Shift: An Educational Approach*, pp. 1-13. The Green Institute.

Afzal, A., Khan, S., Daud, S., Ahmad, Z., & Butt, A. (2023). Addressing the Digital Divide: Access and use of technology in education. *Journal of Social Sciences Review,* 3(2), 883–895. https://doi.org/10.54183/jssr.v3i2.326

Alesi, M., Giordano, G., Gentile, A., & Caci, B. (2023). The Switch to Online Learning during the COVID-19 Pandemic: The Interplay between Personality and Mental Health on University Students. *International Journal of Environmental Research and Public Health,* 20(7), 5255. https://doi.org/10.3390/ijerph20075255

Aleven, V., Stahl, E., Schworm, S., Fischer, F., & Wallace, R. (2003). Help-seeking and help design in *interactive learning environments. Review of Educational Research*, 73(3), 277–320. https://doi.org/10.3102/00346543073003277

Annuš, N. (2024). Gemini x ChatGPT: A discussion of two Chatbots about Artificial Intelligence in the Education. R*esearch Gate*. https://www.researchgate.net/publication/378901794_Gemini_x_ChatGPT_A_discussion_of_two_Chatbots_about_Artificial_Intelligence_in_the_Education

Aronson, J. (1994). A Pragmatic View of Thematic Analysis. The Qualitative Report, 2, 1-3.

Bailey, D.R., & Lee, A.R. (2020). Learning from experience in the midst of COVID-19: Benefits, challenges, and strategies in online teaching. Computer-*Assisted Language Learning Electronic Journal,* 21(2), 176-196.

Baker, R., Corbett, A., & Almeda, V. (2017). Help avoidance: When students should seek help, and the consequences of failing to do so. *Teachers College Record*, 119(3), 1–24. https://journals.sagepub.com/doi/pdf/10.1177/016146811711900303

Bjøntegaard, B. J. (2014). A combination of one-to-one teaching and small group teaching in higher music education in Norway – a good model for teaching? *British Journal of Music Education*, 32(1), 23–36. https://doi.org/10.1017/s026505171400014x

Bouhnik, D., & Deshen, M. (2014). WhatsApp goes to school: Mobile instant messaging between teachers and students. *Journal of Information Technology Education: Research*, 13, 217-

231. http://www.jite.org/documents/Vol13/JITEv13ResearchP217-231Bouhnik0601.pdf

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper (Ed.), *APA Handbook of Research Methods in Psychology: Vol. 2. Research Designs*, 57-71. American Psychological Association. DOI: 10.1037/13620-004

Castells, M. (2001). *The internet galaxy: Reflections on the internet, business and society*. London: Oxford University Press.

Census of India. (2011). *Office of the Registrar General & Census Commissioner of India.* Ministry of Home Affairs, Government of India. https://censusindia.gov.in/nada/index.php/catalog/42617

Cheng, K-H., & Tsai, C-C. (2011). An investigation of Taiwan university students' perceptions of online academic help-seeking, and their web-based learning self efficacy. *The Internet and Higher Education*, 14, 150–157. https://doi.org/10.1016/j.iheduc.2011.04.002

Cheng, K-H., Liang, J-C., & Tsai, C-C. (2013). University students' online academic help seeking: The role of self-regulation and information commitments. *Internet and Higher Education*, 16, 70-77. doi:10.1016/j.iheduc.2012.02.002

Chu, R. J.-C., & Tsai, C.-C. (2009). Self-directed learning readiness, Internet self- efficacy and preferences towards constructivist Internet-based learning environments among higher-aged adults. *Journal of Computer Assisted Learning*, 25(5), 489–501. https://doi.org/10.1111/j.1365-2729.2009.00324.x

Comer, D. E. (2019). *The internet book: Everything you need to know about computer networking and how the internet works.* CRC Press: Taylor & Francis Group.

Culduz, M. (2024). Benefits and challenges of E-Learning, online education, and distance learning. In *Advances in higher education and professional development book series* (pp. 1–27). https://doi.org/10.4018/979-8-3693-4131-5.ch001

Denscombe, M. (2003). *The Good Research Guide: for small-scale social research projects* (2nd ed.). McGraw-Hill Education.

Dhawan, S. (2020). Online learning: a panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. https://doi.org/10.1177/0047239520934018

Ding, L., & Er, E. (2018). Determinants of college students' use of online collaborative help-seeking tools. *Journal of Computer Assisted Learning*, 34(2), 129–139. https://doi.org/10.1111/jcal.12221

Doebling, A., & Kazerouni, A. M.(2021). *Patterns of academic help-seeking in undergraduate computing students.* In Proceedings of the 21st Koli Calling International Conference on Computing Education Research (Koli Calling '21). Association for Computing Machinery, New York, NY, USA, Article 13, 1– 10. https://doi.org/10.1145/3488042.3488052

Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., Baabdullah, A. M., Koohang, A., Raghavan, V., Ahuja, M., Albanna, H., Albashrawi, M. A., Al-Busaidi, A. S., Balakrishnan, J., Barlette, Y., Basu, S., Bose, I., Brooks, L., Buhalis, D., . . . Wright, R. (2023). Opinion Paper: "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management,* 71, 102642. https://doi.org/10.1016/j.ijinfomgt.2023.102642

Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2021). Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19. *Frontiers in Psychology,* 12. https://doi.org/10.3389/fpsyg.2021.733554

Fan, Y.-H., & Lin. T.-J. (2022). Identifying university students' online academic help- seeking patterns and their role in Internet self-efficacy. *The Internet and Higher Education,* 56 (2023), 1-10. https://doi.org/10.1016/j.iheduc.2022.100893

Gall, S. N. (1981). Help-Seeking: An understudied skill in children. *Developmental Review,* 1(3), 224–246. https://doi.org/10.1016/0273-2297(81)90019-8

Gonida, E. N., Karabenick, S. A., Stamoulis, D., Metallica, P., & Greece, T. C. (2019). Help seeking as a self-regulated learning strategy and achievement goals: The case of academically talented adolescents. *High Ability Studies*, 30(1–2), 147–166. https://doi.org/10.1080/13598139.2018.1535244

Goswami, M. P., Thanvi, J., & Padhi, S. R. (2021). Impact of online learning in India: A survey of university students during the COVID-19 crisis. *DOAJ* (*DOAJ: Directory of Open Access Journals*). https://doi.org/10.15206/ajpor.2021.9.4.331

Green, W. (2018). Engaging "Students as Partners" in Global Learning: Some possibilities and provocations. *Journal of Studies in International Education,* 23(1), 10–29. https://doi.org/10.1177/1028315318814266

Hao, Q., Barnes, B., Wright, E., & Branch, R. M. (2017). The influence of achievement goals on online help seeking of computer science students. *British Journal of Educational Technology*, 48(6), 1273–1283. https://doi.org/10.1111/bjet.12499

Hao, Q., Wright, E., Barnes, B., & Branch, R. M. (2016). What are the most important predictors of computer science students' online help-seeking behaviours? *Computers in Human Behavior,* 62, 467–474. https://doi.org/10.1016/j.chb.2016.04.016

Javadi, M., & Zarea, K. (2016). Understanding thematic analysis and its pitfall. *Journal of Client Care*, 1(1), 34-40. doi:10.15412/J.JCC.02010107

Joo, Y-J., Bong, M., & Choi, H-J. (2000). Self-Efficacy for self-regulated learning, academic self-efficacy, and internet self-efficacy in web-based instruction. ETR&D, 48(2), 5-17.

Joshi, B. M., Khatiwada, S. P., & Pokhrel, R. K. (2024). Influence of socioeconomic factors on access to digital resources for education. *Rupantaran a Multidisciplinary Journal*, 8(01), 17–33. https://doi.org/10.3126/rupantaran.v8i01.65197

Kankam, P. K., Acheampong, L. D., & Dei, D. J. (2024). Dissemination of scientific information through open access by research scientists in a developing country. *Heliyon*, 10(7), e28605. https://doi.org/10.1016/j.heliyon.2024.e28605

Karabenick, S. A. (2003). Seeking help in large college classes: A person-centred approach. Contemporary Educational Psychology, 28(1), 37–58. https://doi.org/10.1016/S0361-476X(02)00012-7

Karabenick, S.A., & Knapp. J.R. (1991). Relationship of academic help seeking to the use of learning strategies and other instrumental achievement behaviour in college students. *Journal of Educational Psychology*, 83(2), 221–230. https://doi.org/10.1037/0022-0663.83.2.221

Khasawneh, S. a. a. a. M. a. a. M. a. S. (2023). Investigating the socioeconomic factors influencing access and equity in online learning. *Tuijin Jishu/Journal of Propulsion Technology,* 44(3), 352–361. https://doi.org/10.52783/tjjpt.v44.i3.291

Korkmaz, Ö., Erer, E., & Erer, D. (2022a). Internet access and its role on educational inequality during the COVID-19 pandemic. *Telecommunications Policy,* 46(5), 102353. https://doi.org/10.1016/j.telpol.2022.102353

Korkmaz, Ö., Erer, E., & Erer, D. (2022b). Internet access and its role on educational inequality during the COVID-19 pandemic. *Telecommunications Policy*, 46(5), 102353. https://doi.org/10.1016/j.telpol.2022.102353

Kroll, J. F., & Dussias, P. E. (2017). The benefits of multilingualism to the personal and professional development of residents of the US. *Foreign Language Annals*, 50(2), 248–259. https://doi.org/10.1111/flan.12271

Kuo, Y.-C., Tseng, H., & Kuo, Y.-T. (2020). Internet self-efficacy, self-regulation, and student performance: African-American adult students in online learning. *International Journal on E-Learning*, 19(2), 161–180. https://www.scopus.com/record/display.uri?eid=2-s2.0-85099423162&origin=inward

Lee, C. E., Chern, H. H., & Azmir, D. A. (2023). WhatsApp use in a Higher education learning environment: Perspective of students of a Malaysian private university on academic performance and team effectiveness. *Education Sciences,* 13(3), 244. https://doi.org/10.3390/educsci13030244

Liang, J.-C., & Tsai, C.-C. (2008). Internet self-efficacy and preferences toward constructivist Internet-based learning environments: A study of pre-school teachers in Taiwan. *Journal of Educational Technology & Society*, 11(1), 226– 237. https://www.scopus.com/record/display.uri?eid=2-s2.0- 54149100343&origin=inward

Liu, S-H. (2017). Relationship between the factors influencing online help-seeking and self-regulated learning among Taiwanese preservice teachers. *Computers in Human Behavior,* 72, 38-45. http://dx.doi.org/10.1016/j.chb.2017.02.034

Mäkitalo-Siegl, K., Kohnle, C., & Fischer, F. (2011). Computer-supported collaborative inquiry learning and classroom scripts: Effects on help-seeking processes and learning outcomes. *Learning and Instruction*, 21(2), 257–266. https://doi.org/10.1016/j.learninstruc.2010.07.001

Martín-Arbós, S., Castarlenas, E., & Dueñas, J-M. (2021). Help-seeking in an academic context: A systematic review. *Sustainability*, 13, 44-60. https://doi.org/10.3390/su1308446

Met, M. (2008). Chapter 3: Paying Attention to Language: Literacy, language and Academic Achievement. In *Multilingual Matters eBooks* (pp. 49–70). https://doi.org/10.21832/9781847690371-006

Metzger, M. J., Flanagin, A. J., & Zwarun, L. (2003). College student Web use, perceptions of information credibility, and verification behaviour. *Computers & Education*, 41(3), 271–290. https://doi.org/10.1016/s0360-1315(03)00049-6

Ministry of Human Resource Development, Government of India. (2012). *Department of Higher Education*. https://web.archive.org/web/20120303143139/http://mhrd.gov.in/central_univ _eng

Ministry of Human Resource Development, 2020. (2020). *National Education Policy*. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

Mouratidis, K., & Papagiannakis, A. (2021). COVID-19, internet, and mobility: The rise of telework, telehealth, e-learning, and e-shopping. *Sustainable Cities and Society*, 74, 1-14. https://doi.org/10.1016/j.scs.2021.103182

Muthuprasad, T., Aiswarya, S., Aditya, K., & Jha, G. K. (2021). Students' perception and preference for online education in India during COVID -19 pandemic. *Social Sciences & Humanities* Open, 3(1), 100101. https://doi.org/10.1016/j.ssaho.2020.100101

Naik, G. L., Deshpande, M., Shivananda, D. C., Ajey, C. P., & Manjunath Patel, G. C. (2021). Online teaching and learning of higher education in India during COVID-19 emergency lockdown. *Pedagogical Research*, 6(1), 1-14. https://doi.org/10.29333/pr/9665

Newman, R. S. (2008). *Motivation and self-regulated learning: Theory, research, and applications.* Abingdon: Routledge Press. https://scholar.google.com/scholar_lookup?title=Motivation%20and%20self-regulated%20learning%3A%20Theory%2C%

20research%2C%20and%20applications&author=R.S.%20Newman&publication_year=2008

Newman, R. S. (1994). *Adaptive help seeking: A strategy of self-regulated learning.* In D. H. Schunk, & B. J. Zimmerman (Eds.), Self-regulation of learning and performance: Issues and educational applications, (pp. 283–301). Hillsdale: Erlbaum. https://go.gale.com/ps/i.do?id=GALE%7CA250652043&sid=googleScholar&v=2.1&id=r&linkaccess=abs issn=11767839&p=AONE nsw=w&userGroup Name=anon%7E767d4bf9

Nuraziza, N., Oktaviani, L., & Sari, F.M. (2021). EFL learners' perceptions on ZOOM application in the online class. *Jambura Journal of English Teaching and Literature*, 2(1), 41-51.

Ong, S. G. T., & Quek, G. C. L. (2023). Enhancing teacher–student interactions and student online engagement in an online learning environment. *Learning Environments* Research, 26(3), 681–707. https://doi.org/10.1007/s10984-022-09447-5

Oraif, I., & Elyas, T. (2021). The Impact of COVID-19 on Learning: Investigating EFL learners' engagement in online courses in Saudi Arabia. *Education Sciences*, 11(3), 99. https://doi.org/10.3390/educsci11030099

Peeters, A., Robinson, V., & Rubie-Davies, C. (2020). Theories in use that explain adolescent help seeking and avoidance in mathematics. *Journal of Educational Psychology*, 112(3), 533. https://doi.org/10.1037/edu0000423

Player-Koro, C. (2012). Factors influencing teachers' use of ICT in education, *Education Inquiry*, 3(1), 93-108. DOI: 10.3402/edui.v3i1.22015

Price, T.W., Liu, Z., Catete, V., & Barnes, T. (2017). *Factors influencing students' help-seeking behaviour while programming with human and computer tutors*. ICER 2017 - Proceedings of the 2017 ACM Conference on International Computing Education Research, 127–135. https://doi.org/10.1145/3105726.3106179

Puustinen, M., Bernicot, J., & Bert-Erboul, A. (2011). Written computer-mediated requests for help by French-speaking students: An analysis of their forms and functions. *Learning and Instruction*, 21(2), 281–289. https://doi.org/10.1016/j.learninstruc.2010.07.005

Qayyum, A. (2018). Student help-seeking attitudes and behaviours in a digital era. *International Journal of Educational Technology in Higher Education*, 15(17), 1-16. https://doi.org/10.1186/s41239-018-0100-7

Ratten, V. (2023). The post COVID-19 pandemic era: Changes in teaching and learning methods for management educators. *The International Journal of Management Education*, 21, 1-8. https://doi.org/10.1016/j.ijme.2023.100777

Reeves, A.J., Alkhalaf, S., & Amasha, M.A. (2019). WhatsApp as an educational support tool in a Saudi University. *International Journal of Advanced Computer Science and Applications*, 10(8), 394-401.

Ryan, A. M., & Pintrich, P. R. (1997). "Should I ask for help?" The role of motivation and attitudes in adolescents' help-seeking in maths class. *Journal of Educational Psychology*, 89(2), 329–341. https://doi.org/10.1037/0022- 0663.89.2.329

Malo, S. (2021). Impact of the COVID-19 pandemic on higher education: A study of students from lower socioeconomic strata in Assam. *International Journal of Food and Nutritional Sciences*, 10(4), 1063-1072.

Sahadevan, P., & Sumangala, M. (2021). Effective Cross-Cultural communication for international business. *Shanlax International Journal of Management*, 8(4), 24–33. https://doi.org/10.34293/management.v8i4.3813

Sarkar, S. (2012). The role of information and communication technology (ICT) in higher education for the 21st century. *The Science Probe*, 1(1), 30-40.

Schei, O. M., Møgelvang, A., & Ludvigsen, K. (2024). Perceptions and Use of AI Chatbots among Students in Higher Education: A Scoping Review of Empirical Studies. *Education Sciences*, 14(8), 922. https://doi.org/10.3390/educsci14080922

Shaddad, A. R. E., & Jember, B. (2024). A step toward effective language learning: an insight into the impacts of feedback-supported tasks and peer-work activities on learners' engagement, self-esteem, and language growth. *Asian-Pacific Journal of Second and Foreign Language Education*, 9(1). https://doi.org/10.1186/s40862-024-00261-5

Sharma, A., Gandhar, K., & Sharma, S. (2011). Role of ICT in the process of teaching and learning. *Journal of Education and Practice*, 2(5), 1-6.

Simamora, R. M., De Fretes, D., Purba, E. D., & Pasaribu, D. (2020). Practices, Challenges, and Prospects of Online Learning during Covid-19 Pandemic in Higher Education: Lecturer Perspectives. *Studies in Learning and Teaching*, 1(3), 185–208. https://doi.org/10.46627/silet.v1i3.45

Sofi-Karim, M., Bali, A. O., & Rached, K. (2022). Online education via media platforms and applications as an innovative teaching method. *Education and Information Technologies*, 28(1), 507–523. https://doi.org/10.1007/s10639-022-11188-0

Tang, H., Lin, Y., & Qian, Y. (2021). Improving K-12 teachers' acceptance of open educational resources by open educational Practices: A mixed methods inquiry. *Educational Technology Research and Development*, 69(6), 3209–3232. https://doi.org/10.1007/s11423-021-10046-z

Tanveer, M., Bhaumik, A., Hassan, S., & Haq, I.U. (2020). Covid-19 pandemic,outbreak of the educational sector and students online learning in Saudi Arabia. Journal of Entrepreneurship Education, 23(3), 1-14.

Tsai, C.-C., Chuang, S.-C., Liang, J.-C., & Tsai, M.-J. (2011). Self-efficacy Internet based learning environments: A literature review. *Journal of Educational Technology & Society*, 14(4), 222–240. https://www.scopus.com/record/display.uri?eid=2-s2.0-84856839461&origin=inward

Uluyol, Ç., & and Sahin, S. (2014). Elementary school teachers' ICT use in the classroom and their motivators for using ICT. *British Journal of Educational Technology,* 1-11. doi:10.1111/bjet.12220

Vashistha, D., Chandel, P. K., & Gaur, S. (2024). Investigating socioeconomic disparities in digital education experiences. *The International Journal of Indian Psychology*, 12(3). https://ijip.in/articles/socioeconomic-disparities/

Virkkula, E. (2015). Communities of practice in the conservatory: learning with a professional musician. *British Journal of Music Education*, 33(1), 27–42. https://doi.org/10.1017/s026505171500011x

Wiyono, B., Indreswari, H., & Putra, A.P. (2021). The utilisation of "Google Meet" and "Zoom Meetings" to support the lecturing process during the pandemic of COVID-19. 2021 I*nternational Conference on Computing, Electronics & Communications Engineering (iCCECE), Southend, United Kingdom*, pp. 25-29. https://doi: 10.1109/iCCECE52344.2021.9534847

Wu, Y.-T., & Tsai, C.-C. (2006). University students' Internet attitudes and Internet self efficacy: A study at three universities in Taiwan. *Cyberpsychology & Behavior*, 9(4), 441–450. https://doi.org/10.1089/cpb.2006.9.441

Yu, K., & Motlhabane, M. G. (2022). WhatsApp's potential to broaden online teaching and learning: Perceptions of undergraduate students from one South African university. *Journal of Information Technology Education Research*, 21, 547–569. https://doi.org/10.28945/5031

Zalli, E. (2024). Globalization and Education: Exploring the exchange of ideas, values, and traditions in promoting cultural understanding and global citizenship. *Interdisciplinary Journal of Research and Development*, 11(1 S1), 55. https://doi.org/10.56345/ijrdv11n1s109

Zimmerman, B. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist*, 25(1), 3–17. http://dx.doi.org/10.1207/s15326985ep2501_2