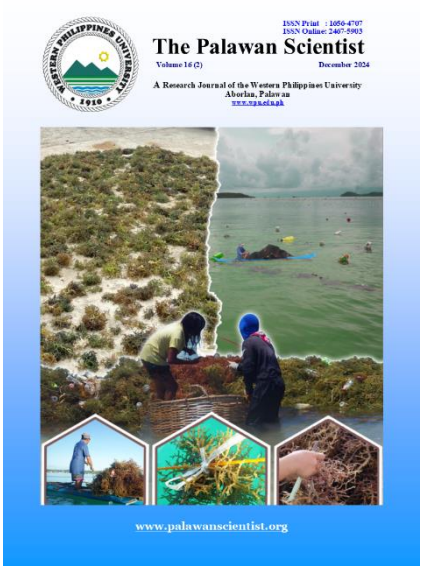

Flexible learning in graduate education of State Universities and Colleges in the Davao Region, Philippines

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ABSTRACT

This concurrent mixed-methods study investigates the landscape of flexible learning in graduate education among 41 coursework academic programs at five State Universities and Colleges (SUCs) in the Davao Region, Philippines. Data collection included an online survey with 422 graduate students and interviews with ten graduate program enrollees. The study employed a combination of statistical mean analysis and Colaizzi's phenomenological data analysis framework for data interpretation. Through the Community of Inquiry (CoI) framework, this research indicates high ratings for the three essential dimensions of CoI Theory - teaching, social, and cognitive presence, reflecting a significant level of satisfaction with flexible learning in the graduate education programs offered by State Universities in the Davao Region. Guided by Schlossberg's Transition (ST) Theory, this study uncovers promising opportunities associated with flexible learning. Graduate students are presented with the prospects of self-directed learning, financial and time savings, enhancement of digital skills, multitasking abilities, and the cultivation of crucial soft skills. However, flexible learning is not exempt from limitations, including challenges on unreliable internet connectivity, power interruptions, electronic device-related risks, financial stress, and balancing multiple work and academic responsibilities. To surmount these challenges, graduate students employ various coping strategies such as effective time management, maintaining a positive outlook, and seeking support from family, colleagues, classmates, friends, and their institutions. This research contributes to enhancing the sustainability and enrichment of flexible learning in graduate education. It strongly advocates for a comprehensive analysis of a multifaceted framework, alignment of flexible learning with graduate students' preferences, and a nuanced understanding of the evolving landscape of flexible learning in graduate education.

Keywords: colleges, concurrent mixed-methods design, flexible learning, and state universities

INTRODUCTION

Flexible learning, also known as blended learning, has gained widespread adoption in academic institutions in response to the COVID-19 pandemic, reshaping conventional learning paradigms. In response, institutions started implementing web-based learning and traditional place-based classroom methods (Singh et al. 2021). However, despite its success, scholars like Gacotano et al. (2021) have highlighted a plethora of challenges, including the lack of network access, economic instability, the digital

divide, a shortage of digital devices, distractions in the learning environment, expensive internet data, health-related problems, resource scarcity, digital illiteracy, and reduced motivation. Rotas et al. (2020) further underscore the problems of unstable internet connectivity, inadequate learning resources, power interruptions, vague learning contents, overloaded lesson activities, limited teacher guidance, poor peer communication, conflicts with home responsibilities, subpar learning environments, financial constraints, compromised physical health, and mental health challenges in flexible learning.

Moreover, student perceptions of flexible learning during the pandemic, as reported by Al-Mawee et al. (2021), reflect a spectrum of emotions, indicating a complex picture. The study by Xu and Jaggars (2014) reveals that students who previously struggled academically in traditional face-to-face settings may face even more significant hurdles when transitioning to distance learning, resulting in lower grades. Notably, hybrid learning, as a form of flexible learning, presents its challenges, including the need for reliable internet access, the imperative for effective time management to complete virtual coursework, and the risk of distractions (Carlton 2020). However, it is essential to acknowledge that flexible learning has empowered students with enhanced self-regulated learning abilities, enabling them to effectively engage in learning activities within this evolving educational landscape (Turan et al. 2022).

While an expanding body of literature acknowledges the transformative potential of flexible learning in reshaping contemporary education, a conspicuous research gap remains, particularly in its application to graduate education within State Universities and Colleges (SUCs) in the Davao Region, Philippines. As Müller and Mildenberger (2021) aptly recommended, there is a pressing need for additional high-quality primary studies across diverse academic disciplines to investigate flexible learning in graduate education. These studies should adhere to rigorous methodological standards to validate existing findings and assess the efficacy of flexible learning in diverse academic disciplines and settings. It is essential to include a broad spectrum of disciplines, enabling a comprehensive examination of the contextualization of flexible learning and its suitability for various subject areas.

This concurrent mixed-methods study explores the future of education by closely examining the adoption and sustained incorporation of flexible learning within graduate programs at State Universities and Colleges (SUCs) in the Davao Region, Philippines. Furthermore, it delves into the educational journeys of graduate students within the domain of flexible learning, utilizing the lenses of the CoI and ST theories to offer insightful perspectives. To this end, it uses a survey to assess the dimensions of teaching, cognitive, and social presence, providing valuable insights into the educational journeys of graduate students. In addition, in-depth interviews are employed to unearth the nuanced experiences of graduate students engaged in flexible learning. By artfully integrating both quantitative and qualitative research designs, this study aspires to offer a comprehensive understanding of graduate students' experiences in flexible learning, affording a well-rounded and insightful perspective on the subject. The study's primary objectives include: 1. To determine the teaching, social, and cognitive presence in the educational experiences of graduate students engaged in flexible learning; and 2. To explore the educational encounters of graduate students, including the opportunities, limitations, coping strategies, and support mechanisms that contribute to effective flexible learning.

METHODS

This section presents a comprehensive overview of the fundamental elements necessary for the research conducted in this study. It includes detailed explanations of key components, including the research design, study participants, research site, sampling methodology, research instruments employed, data collection approach, and the subsequent data analysis process. These elements collectively establish the framework that guides the research endeavors of this study.

Research Design

This study used a concurrent mixed-methods approach, as outlined by Sukiman et al. (2022), allowing for the simultaneous collection of quantitative and qualitative data. A concurrent mixed-methods procedure involves the researcher's adept integration of quantitative and qualitative data to provide a thorough and holistic analysis of the research problem (Creswell 2009).

In the quantitative phase, an online survey was conducted to determine the levels of teaching, social, and cognitive presence in graduate students' educational experiences in flexible learning. The qualitative phase explored the diverse aspects of graduate students' educational experiences, encompassing their perceptions of opportunities, limitations, coping strategies, and support structures in flexible learning.

Research Site

The study was carried out across five State Universities and Colleges (SUCs) in the Davao Region, Philippines, namely Davao del Norte State College, Davao del Sur State College, University of Southeastern Philippines, Davao Oriental State University, and Southern Philippines Agri-Business

and Marine and Aquatic School of Technology, offer a diverse array of graduate programs.

Sampling Procedure

For this study, a combination of sampling methods was thoughtfully employed. As Rahman et al. (2022) advocated, simple random sampling was used in the quantitative phase, while purposive sampling was employed in the qualitative, step in line with Thomas (2022). In the quantitative phase, the study involved 422 respondents, all graduate students enrolled in State Universities and Colleges (SUCs) in the Davao Region and actively participating in flexible learning programs. This diverse group of graduate students represented 41 academic disciplines clustered to 11 areas and was selected based on their availability and willingness to provide valuable insights (Table 1). In the qualitative phase, ten informants were chosen purposively from the pool of graduate students participating in flexible learning programs. The aim is to ensure a balanced representation of perspectives, including positive, negative, or mixed experiences with flexible learning. All participants are currently enrolled in a graduate program, contributing to a comprehensive understanding of the flexible learning landscape in the region. It is worth noting that the sampling criteria excluded indigenous peoples, minors, and pregnant women in the research's quantitative and qualitative phases.

Table 1. Respondents of the study (n = 422).

Graduate Programs per Cluster	Number of Respondents	Percentage of Respondents
Doctor of Education (Educational Leadership and Management/Educational Management) Doctor of Philosophy in Education major in Educational Leadership and Educational Management	83	20
Doctor of Philosophy (Biology/Development Research Administration/Horticulture)	4	1
Master in Business Administration/Public Administration/Economics/Econometrics	48	11
Master in Agriculture/Environmental Science/ Fisheries Management/Marine Biodiversity/Engineering	30	7
Master of Arts in Educational Management/Master of Educational Management	153	36
Master in Education/Extension Education/Technology Education	24	6
Master of Arts in Education/Basic Education/Special Education/Guidance and Counseling/Master of Education	32	8
Master of Arts in Language Teaching/Teaching English/English Language Teaching/Master in Education in Language Teaching	15	4
Master of Science in Teaching Mathematics/ Master of Arts in Mathematics Education/Teaching Math	5	1
Master of Science Teaching (General Science/Biology)/Master of Arts in Science Teaching	28	7
Total	422	100

Research Instrument

This study employed two primary data collection tools: a survey questionnaire and an interview guide. For the quantitative phase, the research utilized a well-established and validated questionnaire developed by Arbaugh et al. (2008). It was adapted, contextualized, and validated by validators who are experts in this field. This questionnaire features structured questions centered around teaching, social, and cognitive presence and employs a five-point Likert scale to measure responses. Additionally, a pilot test was done among graduate students from the five SUCs to ensure questionnaire validity and reliability. The adapted questionnaire has a Cronbach alpha coefficient of 0.968. A Cronbach's Alpha of 0.70 or higher is considered good, 0.80 or higher is better, and 0.90 or higher is outstanding. A Cronbach's Alpha of 0.60 or higher is deemed satisfactory (UCLA 2021).

Conversely, an interview guide was developed in the qualitative phase, and its validity was confirmed through consultation with two experts. Additionally, the guide underwent a trial run with two individuals not participating in the study, ensuring its effectiveness and clarity. The interview guide consisted of open-ended questions designed to elicit detailed insights from students concerning their academic experiences in flexible learning, focusing on promising opportunities, encountered limitations, coping strategies, and the presence of necessary support for effective learning.

Data Collection Procedures

This study harnessed the power of Google Forms, a platform outlined by Ball (2019), to administer online surveys and streamline capturing responses from in-depth interviews. Before data collection, formal permissions were diligently obtained from the presidents of the concerned State Universities and Colleges (SUCs) in the Davao

Region. Before the commencement of interviews, the study adhered to ethical protocols by obtaining informed consent from all participants. This process ensured that individuals understood the study's objectives and willingly participated in the interview process.

Data Analysis

The analysis of data involved both quantitative and qualitative approaches. Quantitative data on the levels of teaching, social, and cognitive presence in students' academic experiences were assessed using the mean, as outlined by Bland (2015). Collaizi's phenomenological data analysis framework, guided by Praveena and Sasikumar (2021), was employed for the qualitative data. The analysis process commenced with a comprehensive reading of each transcript to better understand flexible learning in graduate education. Subsequently, notable statements on flexible learning in graduate education were extracted from each transcript. From these significant statements, meaningful insights were formulated. These formulated meanings were then organized into categories, clusters of themes, and overarching themes using the approach advocated by Wirihana et al. (2018). The study's findings were synthesized to provide a comprehensive portrayal of the landscape of flexible learning in graduate education. This synthesis illuminated the fundamental structure of flexible learning within the context of graduate education, offering an in-depth understanding of this educational modality.

RESULTS

Teaching, Social, and Cognitive Presence in Flexible Learning of Graduate Education of State Universities and Colleges in the Davao Region

Table 2 reveals the summary of the quantitative result of flexible learning of graduate education of state universities and colleges in the Davao Region in terms of the three domains, namely teaching, social, and cognitive presence. Each domain acquired a mean of 4.34, 4.03, and 4.18 respectively. The quantitative investigation from the lens of (CoI) revealed that the three domains of the educational experiences of the graduate students engaged in flexible learning have a high descriptive level.

Promising Opportunities, Limitations Coping, Strategies, and Support in Flexible Learning of Graduate Education at State Universities and Colleges in the Davao Region

From the lens of Schlossberg's Transition Theory, this research uncovers various opportunities within flexible learning for graduate students, encompassing autonomous self-learning, cost and time efficiency, digital skill advancement, multitasking finesse, and honing essential soft skills. Conversely, the canvas of flexible learning also presents its share of constraints, ranging from the vexation of unreliable internet connectivity and sporadic power disruptions to the potential risks posed by electronic devices, financial burdens, and the juggling act of work and academic responsibilities. In response, graduate students employ adaptive strategies such as prioritization, seeking guidance, diligent reading, relaxation techniques, fostering a positive mindset, and effectively managing their multifaceted responsibilities. A robust support network for optimizing flexible learning emanates from various quarters, including family, peers, colleagues, classmates, friends, and the institution (Table 3).

DISCUSSION

Teaching, Social, and Cognitive Presence in Flexible Learning of Graduate Education of State Universities and Colleges in the Davao Region

The study's findings, indicating a high teaching presence in the flexible learning context for graduate students, find substantial support in the literature reviewed. Pawan et al. (2003) emphasized teachers' interaction, facilitation, and direction in higher-order learning, aligning with the study's high teaching presence. Akyol et al. (2009) and Jackson et al. (2010) highlighted teaching presence as effective in online learning, influencing course structure and student satisfaction. The study's findings echo these observations, emphasizing the impact of teachers' actions on students' learning experiences and contentment. Additionally, Shea et al. (2006) and Akyol et al. (2009) stressed the importance of teaching presence in maintaining a community of learners, which resonates with the study's identification of high teaching presence fostering a sense of community among graduate students. Furthermore, Zhang et al. (2016) and Law et al. (2019) pointed out the role of teaching presence in enhancing social and cognitive engagement, mirroring the study's findings that teachers' interactions and direct instructions improve these aspects among graduate students. This result indicates that the planning, coordination, and management of cognitive and social processes to achieve learning outcomes that are personally meaningful and educationally valuable (Anderson et al. 2019) are already in place. Moreover, the ability of graduate students to identify with the community, communicate purposefully in a trusting environment, and develop interpersonal relationships by protecting their personalities is also very satisfactory. The extent to which learners can construct and confirm meaning through sustained reflection and discourse is very satisfactory.

Table 2. Teaching, social, and cognitive presence in flexible learning of graduate education of State Universities and Colleges in Davao Region, Philippines (n = 422).

Variables n =3	Mean (4.20 sd)	Descriptive Level
Teaching Presence	4.34	High
Social Presence	4.03	High
Cognitive Presence	4.18	High

Table 3. Promising opportunities, limitations, strengths, and support in flexible learning of graduate education of SUCs in the Davao Region, Philippines.

Flexible Learning in Graduate Education of SUCs in Davao Region, Philippines			
Promising Opportunities	**Limitations**	**Strategies**	**Support**
• Self-learning • Cost and time saving • Digital upskilling • Multitasking • Soft skills sharpening	• Poor internet connectivity • Electric power interruption • Hazards of electronic devices • Financial stress • Multiple work and school related tasks	• Consultation • Getting things done • Reading • Taking time to relax • Having positive attitude • Managing multiple tasks	• Family: moral and financial support • Colleagues: academic support • Classmates and friends: technical support • University or college: affordable tuition, online databases, mental health support, internet-savvy and inspiring faculty

Teachers have consistently emerged as significant catalysts for students' academic achievements, as demonstrated by Whittle et al. in their 2018 study. This research underscores the enduring presence and impact of teachers within the educational journey of graduate students, whether through online or in-person instruction. In recognition of their invaluable contribution, teachers should be lauded for their unwavering support as they navigate alongside students through the ever-evolving landscape of new learning modes. It is imperative for educational management to continually prioritize the recruitment and retention of dedicated teachers who are poised to adapt to and thrive within the dynamic educational landscape.

This study found a high social presence among graduate students in flexible learning settings, supported by literature. Shea et al. (2003) showed how social presence helps students project themselves into the learning community. This idea fits with the study's findings that authentic peer connections empower and engage students in learning. Bulu (2012) found that social presence boosts student satisfaction psychologically. The study found that graduate students' learning experiences are more satisfying and enriching when they feel socially present. Wei et al. (2012) added to this discussion by linking social presence, interaction, and collaborative learning. The study found that authentic connections empower and engage graduate students, and high social presence improves graduate students' enjoyment and collective learning experiences. Sung and Mayer (2012) stressed the importance of leaders in creating a learning community through positive influences, rapport, and peer connections. Social presence is crucial to a supportive and inclusive learning environment. In this context, Wei et al. (2012) emphasize that learners must perceive an appropriate degree of social presence to feel comfortable interacting with others, which, in turn, significantly enhances and improves student-to-student interactions. Effective communication social bonds within the group are crucial for maintaining an open conversation and social bonds to sustain the learning community (Thompson and MacDonald 2005).

Social presence plays a significant role in the educational journey of graduate students. They find peer support that inspires them to finish their studies. Thus, looking for a support system may help in graduate education. Additionally, the domain of cognitive presence is also defined as high, which means that the student's exploration and construction of ideas, technical resolution, and understanding is through collaboration and reflection in the learning group. Garrison (2003) stated that cognitive presence is the primary key to successful higher education. The essential element in the academic endeavor focuses on the student's talent and ability to encrypt meaning through reflection and continuous discussion (Garrison et al. 2000). Cognitive presence indicates that the teachers had a better understanding of the difficulty and development of the students as well as measuring the learning environment, which manifested to be an essential part of the learning setting (Garrison and Vaughan 2007).

This study demonstrates that flexible learning in graduate education aligns with the principles of andragogy, catering to the specific needs of adult learners. Within graduate education, a pivotal focus lies in refining higher-order thinking skills among graduate students. In this pursuit, the administration of graduate programs plays a crucial role in nurturing and sustaining the development of these critical higher-order thinking skills. Indeed, the paramount objective of graduate education is to foster the growth of these cognitive capabilities among students.

Promising Opportunities, Limitations Coping, Strategies, and Support in Flexible Learning of Graduate Education at State Universities and Colleges in the Davao Region

This study unveiled promising opportunities within flexible learning, enabling graduate students to

embark on self-directed learning, harness cost and time savings, elevate their digital prowess, master the art of multitasking, and refine essential soft skills. The following paragraphs delve into these transformative themes.

Self-learning. The program outcome of graduate education lies in fostering self-reliant, independent learners, whether working individually or collaboratively within teams. In the wake of the pandemic, adopting flexible learning has led graduate students to truly embrace this self-driven learning paradigm that empowers them to take charge of their educational journey at their own pace. As Milligan and Littlejohn (2014) astutely observed, this newfound autonomy allows students to determine how and when they engage with knowledge and educational activities. This shift in behavior and approach aligns seamlessly with Zimmerman's (2000) concept of self-regulation. Consequently, students have become more mindful of their responsibility for learning, relinquishing dependency and, in turn, supporting their peers in their learning endeavors, as articulated by Ayish and Deveci (2019).

Flexible learning is exceptionally well-suited for graduate education, primarily because the students are adult learners. Adult learners, as they already possess a degree of maturity and independence, typically require less direct oversight from professors and often prefer a self-directed learning approach. Nevertheless, it's vital to establish a robust feedback mechanism between students and professors. This feedback serves as a crucial communication bridge, affording professors insights into the student's progress and level of attainment. With this information, professors can make informed decisions regarding the students' individualized learning paths and program adjustments.

Cost and timesaving. Flexible learning is a beacon of cost-effectiveness and time efficiency for graduate students. In this mode of education, graduate students significantly curtail their expenditures by eliminating travel-related costs and the need for physical course materials. Notably, Belille (2022) emphasized that universities increasingly acknowledge the credits earned through online courses, often at a fraction of the cost of traditional in-person classes. Furthermore, the expenses associated with flexible learning remain minimal or virtually nonexistent, as there are no transportation costs, and the need for conventional course materials becomes obsolete. This notion aligns with Kumari's (2021) observation that learning via electronic devices and gadgets streamlines the educational process, allowing students to engage in lectures and coursework efficiently. Students can complete a week's worth of academic activities in approximately 70 hours, all from the comfort of their devices.

Flexible learning offers distinct advantages in graduate education, delivering substantial financial benefits to students and higher education institutions. It translates to significant student savings by minimizing transportation expenses and eliminating the need for costly course materials. Beyond the individual level, it's equally beneficial for higher learning institutions, as they experience reduced overhead costs related to electricity consumption and the maintenance of physical facilities. Moreover, flexible learning enables institutions to efficiently accommodate a larger student population by requiring fewer physical classrooms, ultimately promoting scalability and accessibility in higher education.

Digital upskilling. Digital technology is pivotal in flexible learning, significantly enhancing digital competence among graduate students. Hatlevik et al. (2015) noted that this heightened level of digital competence encompasses what can be referred to as "internet skills." Furthermore, Janssen et al. (2013) astutely observed that these digital technologies have become more intuitive and user-friendly. This transformation has profound implications, as it empowers students in terms of technical proficiency and the development of higher-order skills such as collaboration, creativity, and the ability to construct and refine ideas.

Flexible learning serves as a vital bridge, facilitating the journey of graduate students, particularly those needing to be more tech-savvy, to acclimate and excel in the new technologies. Within the flexible learning framework, graduate students are thrust into a dynamic landscape that requires familiarity with various learning platforms. For those facing challenges, particularly older students who may need to be more tech-fluent, there is a proactive response in the form of training or mentoring. This tailored support equips them with the necessary skills and knowledge to navigate the diverse digital platforms effectively. They are empowered to adapt to and thrive within the evolving technological landscape.

Multi-tasking. The allure of flexible learning for graduate students lies in its unique ability to accommodate multitasking. Graduate students can seamlessly integrate their academic commitments with the demands of their professional and household responsibilities. This phenomenon finds validation in the findings of Moreno et al. (2012), which underscore that students exhibit a greater tendency for multitasking in online courses compared to traditional face-to-face settings. In the online sphere, students engage in many concurrent activities, aided by the versatile nature of the internet. Reinforcing this notion, Manwaring et al. (2017) assert that when courses incorporate a blend of online and face-to-face components, students exhibit an even higher degree of multitasking within the online segment of the course. This way underscores the adaptability of flexible

learning in accommodating the multitasking proclivities of graduate students.

Soft-skill sharpening. Flexible learning goes beyond developing technical competencies and provides an ideal environment for nurturing essential soft skills among graduate students. The acquisition of these soft skills not only boosts their self-confidence but also equips them to become more effective colleagues, students, and future leaders. Online courses, specifically designed to facilitate dynamic and interactive learning experiences, encourage students to actively communicate and establish connections with their fellow learners. They actively participate in group discussions on course forums and confidently express their perspectives and ideas by virtually "raising their hands." This phenomenon is supported by the insights of Ramakrishnan (2002), who emphasizes that networking and effective communication are among the new proficiencies that can be developed through online classes, adding value dimension to the skill set of graduate students.

Drawing from the lens of the Community of Inquiry (CoI) framework, it becomes evident that the three dimensions of CoI play a significant role in fostering a deeply satisfying experience with flexible learning among graduate students in State Universities and Colleges (SUCs). Moreover, when considering Schlossberg's Transition Theory (ST Theory), flexible learning emerges as promising avenue. Graduate students utilize this modality to embark on a journey of self-directed learning, enjoy tangible cost and time savings, enhance their digital skills, effectively multitask, and sharpen their soft skills.

Flexible learning serves as a catalyst for honing a range of vital soft skills among graduate students. These skills include adept time management, effective communication, networking skills, and adaptability. Consequently, the continued integration of flexible learning is poised to produce graduates with a balanced blend of hard and soft skills – a quality highly sought-after by employers.

Limitations of Flexible Learning in Graduate Education

This study explores the dynamic landscape of flexible learning in graduate education, which presents both opportunities and challenges. These limitations include insufficient internet connectivity, occasional power disruptions, risks associated with electronic devices, financial stressors, and the need to balance work and academic responsibilities. Each of these challenges is examined in detail below.

Internet connectivity challenge. The first challenge is inadequate internet connectivity, which is a significant obstacle for flexible learning in graduate education, particularly for students in remote locations or areas with slow internet access. This connectivity issue can greatly hinder the learning process. Research by Hampton et al. (2021) emphasizes the profound impact of this challenge, as it reveals that students who rely solely on mobile phones due to poor connectivity often receive lower grades compared to those with better internet access. This aligns with the findings of Das (2020), who highlights that slow internet speeds and data usage restrictions further impede students'ability to effectively utilize educational resources. Poor internet connectivity remains a significant concern in flexible learning, particularly for graduate students in remote areas. These students are encouraged to explore potential solutions, such as finding a location with stable internet access during online classes. By taking proactive steps, connectivity issues can be managed, allowing for seamless participation in online learning.

Electric power interruptions. Another challenge in flexible learning is electric power interruptions. Since online classes rely on electronic devices, power outages can significantly disrupt the smooth conduct of these classes. Research by Castillo (2020) emphasizes that power outages are a primary concern for online learning, especially for students in areas with long-standing electricity problems. Verawardina et al. (2020) further highlight the plight of students in rural areas, where frequent power outages and interruptions necessitate support to ensure continuous connectivity in online classes.

Given the inevitability of power outages, whether planned or unexpected, teachers can adopt a practical approach by uploading learning resources well in advance to the learning management system. This strategy empowers students to utilize their time productively when the power is restored, ensuring that learning can continue without significant disruption. During downtime, students can access and engage with the uploaded materials, allowing for a continuous educational process.

Hazard of electronic devices. The use of electronic devices in online learning also presents potential hazards and health risks for graduate students. Research by Cheever et al. (2014) reveals that individuals who develop a dependency on their devices may experience anxiety when separated from them. Mobile and smartphones, as highlighted by Wacks and Weinstein (2021), can contribute to conditions such as depression, stress, and diminished self-esteem. Al Rashidi and Alhumaidan (2017) underscore the profound impact of electronic devices on personal lifestyles, which has resulted in a concerning increase in public health issues attributed to prolonged usage. Additionally, Klamm and Tarnow (2015) elucidate some of the adverse effects of electronic devices, including headaches, eye strain, sleep disturbances, social challenges, and dietary issues.

It is crucial to acknowledge that these hazards extend beyond the control of online learners.

Therefore launching an awareness campaign targeting educators and students is essential to promote responsible and healthy device usage in online learning.

Financial stress. While it is true that graduate students can save on travel expenses and educational institutions can curtail electricity and physical facility maintenance costs, adopting flexible learning can introduce its financial stressors. This stress stems from the necessity of acquiring remote learning devices and gadgets, which can be a significant financial burden. Matswetu et al. (2013) have highlighted students' prevalent financial challenges in online distance learning settings. Saavedra (2020) further underscores the struggles experienced by students in securing the means to sustain their academic requirements, particularly when accessing remote learning essentials like computers and devices. These difficulties are magnified in times of global crises and emergencies.

Attending graduate education indeed comes with its own set of expenses. Graduate students should be academically prepared and financially equipped as they embark on this academic journey. Graduate education, being a privilege, carries financial responsibilities. Graduate students are encouraged to explore avenues such as scholarships or financial support to assist them in managing their academic finances effectively.

Multiple work and school-related tasks. Graduate students often struggle with the demanding juggling of numerous works, school-related responsibilities, and family matters, which can pose a considerable challenge. This confluence of roles, encompassing work, academic pursuits, and family commitments, has elicited concerning feedback from students. Research by Carrier et al. (2015) sheds light on the cognitive consequences of multitasking. Attempting to tackle multiple tasks simultaneously can lead to the division of finite mental capacity among these functions, potentially resulting in reduced cognitive engagement in each task and a subsequent decline in overall task performance. Bellur et al. (2015) further elucidate the impact of this multitasking on academic performance, noting a negative relationship between concurrently managing multiple schoolwork and tasks and a student's Grade Point Average.

In conclusion, this journey has its set of challenges. These include grappling with issues such as unreliable internet connectivity, disruptive power interruptions, potential hazards of electronic devices, financial burdens, and juggling multiple work and school-related responsibilities. Managing these multifaceted responsibilities is undoubtedly challenging, and students must develop effective strategies for time management and task prioritization to ensure optimal performance across all domains.

Coping Strategies in Flexible Learning in Graduate Education

Graduate students effectively address the constraints of flexible learning by adopting various adaptive strategies. These approaches encompass proactively accomplishing tasks, seeking guidance and consultation when needed, engaging in comprehensive reading, taking moments for relaxation, maintaining a positive mindset, and skillfully managing the demands of multiple tasks. The following sections elaborate on these resourceful coping mechanisms.

Consulting. In the flexible learning landscape, consultation is a pivotal tool graduate students utilize for several purposes. It maps out the course, seeks clarity on lessons, and adopts it as a strategic approach to enhance their learning experience. As illuminated by Jordan et al. (2013), consultation is instrumental in helping students unlock their full potential and acquire the necessary skills, often under the nurturing guidance of the teacher. This process entails the teacher providing direction and creating meaningful learning experiences. Additionally, as Lenz (2015) underscores, consultation fosters a positive teacher-student relationship in the academic sphere. It encourages open dialogue and emotional sharing, fostering a supportive, collaborative skills development and leadership environment. Cadosales (2017) further reinforces the significance of consultation in facilitating students' engagement with their academic journey, leading to self-examination, emotional connections, and the development of the ability to assess their strengths and weaknesses in detail.

Consulting is vital in addressing uncertainties and challenges in the flexible learning context of graduate education. It provides graduate students and teachers an avenue for in-depth discussions, whether in face-to-face or online settings. Given the accessibility of teachers through various online platforms, educators need to make themselves readily available to assist graduate students, with the expectation that students observe online etiquette in their interactions. The combination of support and engagement enhances the quality of the learning experience.

Getting things done. In the face of various demanding tasks, graduate students demonstrate their exceptional ability to complete these undertakings, reflecting remarkable self-efficacy effectively. This self-efficacy drives students to excel by amplifying their commitment, unwavering perseverance, and wholehearted endeavor (Pintrich 2003). Getting things done signifies self-efficiency and significantly reduces the likelihood of academic setbacks, as those with robust self-efficacy tend to experience fewer failures (Kurbanoglu and Akim 2010). High levels of self-efficacy enable learners to become more self-reliant,

emboldening them to confront and overcome complex challenges inherent in their educational journey (Sadi and Uyar 2013).

Graduate students find themselves compelled to fulfill their academic requirements, as they need to do so to improve their academic performance and grades. In cases where graduate students encounter challenges in completing their school requirements, a practical approach may involve advising them to consider reducing their course load. This arrangement enables students to receive coursework that aligns with their individual capabilities and specific academic needs, thus ensuring a more manageable and effective learning experience.

Reading. In flexible learning, graduate students benefit immensely from robust reading practice, bolstering their understanding and comprehension of course material and empowering them to tackle the challenges of this mode of education effectively. As Eagleton and Dobler (2015) suggest, reading is a valuable tool for assessing the credibility of online information. Moreover, as Clarke et al. (2013) highlighted, academic success hinges on a student's ability to gather information from reading and comprehend, apply, and analyze it. Unrau and Alvernmann (2013) stress that reading comprehension skills are indispensable for students to meet their academic requirements, as reading transforms text into meaningful symbols that facilitate comprehension.

Critical reading is paramount to success in graduate education, particularly as adult learners are expected to undertake independent learning. To achieve this, graduate students must actively use various learning resources, including online databases, for their research projects. Given the proliferation of online resources, graduate students must develop discerning judgment when evaluating the utility of these resources for their educational journey.

Taking time to relax. Graduate students recognize the importance of relaxation as a vital coping strategy. Setting aside time for relaxation effectively reduces stress levels, enhances cognitive function, and elevates overall performance and productivity. Research conducted by Cornell University lends empirical support to this practice, revealing that taking breaks after study sessions leads to increased energy, heightened focus, improved productivity, and mental rejuvenation. Furthermore, indulging in enjoyable activities during relaxation, such as cooking, listening to music, or engaging in conversation, fosters happiness, amplifying productivity (Yeung, 2018).

Maintaining a work-life balance is crucial for graduate students. Pausing for moments of respite and rejuvenation is an essential component of their journey. They can explore various relaxation techniques that align with their preferences. Additionally, universities and colleges often provide facilities and programs to facilitate and promote these much-needed moments of relaxation.

Having a positive attitude. Maintaining a positive attitude plays a pivotal role in bolstering the morale of graduate students as they confront the challenges inherent in flexible learning. This optimistic outlook shapes their future with hope and empowers them to engage wholeheartedly in endeavors aimed at success. Research by Carver et al. (2010) underscores the substantial benefits of maintaining a positive attitude, as it equips individuals with enhanced coping skills, bolsters physical health, mitigates stress levels, and propels them toward the relentless pursuit of objectives. Furthermore, Scott (2022) notes that embracing the brighter side of situations leads to positive experiences characterized by reduced stress levels and a heightened appreciation for the significance of a healthy life. A positive attitude serves as a beacon of resilience and motivation for graduate students, guiding them through the intricate terrain of flexible learning and inspiring them to strive for success persistently.

Positivity, often described as a magnet for good vibes, significantly eases the academic journey of graduate students. It infuses their lives with optimism, making avoiding worries and negative thinking more attainable. A positive attitude, therefore, becomes an essential companion for every graduate student, enabling them to savor the educational experience and flourish in their academic pursuits. Its influence in fostering resilience and promoting an atmosphere of success is undeniable.

Managing multiple tasks. Graduate students can handle various tasks, and they can improve productivity. Effective management allows graduate students to finish their assignments in less time because their attention is focused, and they are not wasting time on distractions. Auld (2019) stressed that by properly managing the tasks, students can complete their work on time, stay connected and engaged with their learning, and have more time for their other activities and hobbies and spending time with family and friends.

Those who excel in time management relish a harmonious work-life balance and often earn accolades for their academic performance, completing their programs within the expected timeframe. In contrast, graduate students struggling with time management may experience academic setbacks, reflected in incomplete grades and prolonged program completion. Giving them clear task timelines and establishing a close monitoring system is advisable to help them enhance their management skills.

Resilient and adaptable graduate students employ various coping strategies to overcome these hurdles. These strategies include resourceful problem-solving, insightful consultations, voracious reading, well-deserved moments of relaxation, the cultivation

of positive mindsets, and the art of efficient multitasking.

Support for Effective Learning in Flexible Learning of Graduate Education

In flexible learning within graduate education, graduate students are not alone in their academic journey. They receive valuable support from a network encompassing family, colleagues, classmates, friends, and educational institutions. The ensuing sections delve into the significance and roles of these support systems.

Family financial and moral support. Graduate students often find invaluable encouragement through financial and moral support from their families, which fuels their determination to pursue advanced studies. This observation aligns with the research by Ghazi et al. (2010), emphasizing that students' motivation surges when their parents express appreciation for their achievements and performance. Further underscoring this familial influence, Chohan and Kohan (2010) reveal that learners attain tremendous academic success when their parents actively support their educational endeavors. Moneva et al. (2020) provide deeper insights, noting that the level of financial support from parents is closely linked to students' motivation, with optimism playing a key role in motivating learners to tackle their tasks. Interestingly, a higher degree of financial support from parents significantly amplifies students' motivation for academic success. This body of evidence underscores the importance of parents' financial and moral support in shaping learners' academic success.

Even as adults pursuing their graduate studies, graduate students greatly benefit from the unwavering support of their families. Financial assistance from family members can significantly alleviate the financial burden, especially during the demanding phases of thesis or dissertation writing. It proves advantageous to have a family member with a stable income who can contribute to the financial requirements of advanced studies. In cases where such familial financial support is not available, responsible financial planning, including budgeting for school fees and associated expenses, becomes essential. Beyond financial aid, the moral support provided by family members plays a pivotal role in maintaining high spirits and motivation throughout the academic journey. Encouragement, belief, and understanding from loved ones serve as an anchor that fortifies a graduate student's resolve and resilience as they navigate the challenges of higher education.

Colleagues for academic support. Graduate students find invaluable academic support from their colleagues, who play pivotal roles in their academic pursuits. These peers serve as valuable sources of information for data collection in research projects and provide crucial technological assistance. The significance of colleague support becomes evident in the findings of Boyle et al. (2010), where it is observed that students experience heightened motivation and engagement when they receive support from their peers. Additionally, their study skills improve, and they can discuss their academic workload and resolve personal challenges when colleague-mentoring support is in place. The importance of the colleague support system is further underscored by Muljana and Luo (2019), who emphasize their essential role in assisting online learners in surmounting barriers to learning. This support system also plays a critical part in fostering learner development, promoting engagement, and ultimately ensuring success in online education.

This result reinforces the timeless adage that "no man is an island." Graduate students thrive when they have the support of their peers in the academic journey. Having supportive colleagues in the academic sphere is a cornerstone of success in graduate education.

Classmates and friends for technical support. Graduate students, particularly those grappling with technical challenges, find essential assistance from their classmates and friends. Brindley (2014) highlights that engaging in distance learning demands qualities such as maturity, multitasking ability, goal-oriented focus, and the capacity to work independently and cooperatively. Consequently, online learners often establish effective collaborations with peers in virtual groups, forming the basis for creating their learning networks. Rumble (2000) underscores that the success of online students heavily hinges on the support they receive from peers. This perspective is reinforced by the research of McLoughlin and Alam (2014), which reveals that students are substantially aided in enhancing their skills for working with social media. Additionally, they report tangible benefits regarding collaboration with friends and peer networking online. Classmates and friends play a pivotal role in addressing technical challenges and fostering a supportive environment for effective collaboration and skill development in the digital landscape.

Implementing a "buddy system" proves to be a highly beneficial approach, particularly in the context of graduate education within flexible learning environments. This system involves the collaboration of two individuals who work as a cohesive unit, offering mutual support and guidance to one another.

University or college for affordable tuition, online databases, mental health support, and internet-savvy and inspiring faculty. State universities and colleges offer a range of invaluable resources that graduate students sincerely appreciate. These institutions are known for providing free tuition, granting access to comprehensive online databases, offering crucial mental health support programs, and

boosting a faculty that is both internet-savvy and inspirational. Graduate students enrolled in government-funded higher education institutions find immense satisfaction in the affordability of their education. They also benefit from unrestricted access to their institutions' online databases, which serve as invaluable tools for research and skill development, as noted by Reynolds (2021), Sult et al. (2013), and Mery et al. (2014). Equally crucial are the mental health support programs made available by these institutions. These programs foster a positive learning environment by ensuring that students are mentally healthy, willing to learn, actively engaged in school activities, well-connected within the school community, and contributors to a positive school culture, following Youth.gov (2005). Moreover, Frazer et al. (2017) observe that the faculty, equipped with the requisite internet proficiency and inspirational teaching skills, plays an essential role in online education. This alignment with effective online teaching, as emphasized by the Dominican University (2017), inspires students to succeed and fully realize their potential.

Universities and colleges are responsible for ensuring that graduate students receive the necessary support in flexible learning. To fulfill this mandate, these institutions should continue in offering programs that combine affordability delivering quality education. This provision should be complemented by state-of-the-art facilities, easily accessible databases, pertinent mental health support programs, and a dedicated faculty of high caliber guided by compassionate hearts. Furthermore, these educational institutions should continually refine their flexible learning approaches, using the insights and findings from studies like the one presented here. In doing so, they can provide graduate students with an ever improving and more enriching educational experience that aligns with the evolving needs of the academic landscape.

In conclusion, the value of a robust support system cannot be understated; it spans family, colleagues, classmates, friends, and the university or college itself. This study's findings provide a solid foundation for the sustainability and enhancement of flexible learning in graduate education both locally and on the global stage and underscore the critical importance of nurturing pedagogical, social, and cognitive presence within the flexible learning context. Graduate students' remarkable resilience and adaptability, underpinned by effective coping strategies and robust support systems, are central to the vision of enriching graduate education in the Davao Region and beyond. As a result of these compelling findings, further avenues for research are unveiled. The investigation of comprehensive frameworks, exploration of graduate student preferences, and examination of the evolving landscape of flexible learning in graduate education beckons, promising a future of ever-improving educational experiences.

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ETHICAL CONSIDERATIONS

The study meticulously adhered to a comprehensive set of ethical principles. The research instruments contained a concise orientation segment, elucidating the research's nature and the extent of participation required from the respondents and informants to ensure ethical compliance. Additionally, a robust framework of ethical safeguards was established. Before data collection, informed consent was thoughtfully administered, granting the respondents and informants the autonomy to freely accept or decline their participation. It is important to note that studies involving minors or individuals under 18 were conducted with the securement of consent statement forms. The significance of voluntary participation was emphatically communicated to all respondents and informants, allowing them to partake in the data gathering of their own volition. Their identities were cloaked using code names, respecting the respondents' and informants' right to privacy. This way safeguarded their anonymity and instilled a sense of security. The formulation of questions and the choice of language underwent rigorous scrutiny to ensure the utmost respect for respondents and informants, fostering a setting devoid of disrespect. Recognizing that the respondents and informants are professionals, they were accorded the respect and regard commensurate with their status. The study underscored the value of respecting individual differences and cultivating an inclusive environment that embraced diversity. Following the Data Protection Act of 2012, the study diligently upheld the privacy and security of personal data, safeguarding individuals from unwarranted intrusion. Potential risks that may have arisen while the study was diligently addressed, ensuring the safety and well-being of all involved parties. These ethical considerations fortified the research's integrity, guaranteeing the welfare and rights of all participants.

DECLARATION OF COMPETING INTEREST

The authors declare that there are no competing interests to any authors.

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