BORN RMT JOURNAL
OFFICIAL DEPARTMENTAL RESEARCH PUBLICATION OF THE COLLEGE OF MEDICAL LABORATORY SCIENCE
ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

TECHNOSTRESS, CHALLENGES AND COPING MECHANISM OF MEDICAL TECHNOLOGIST STUDENT OF MEDICAL COLLEGES OF NORTHERN PHILIPPINES ON HYBRID LEARNING

Trisha Mae S. Ayuyang,
Kyla France Angel M. Co,
Ashleign Angel M. Membrot,
Precious Yvanne G. Panaga,
Rajen Pillos,
Karen C. Ramos,
Claus B. Saguibo,
Heartdwick L. Cuarteros, RMT,

ABSTRACT

The shift to hybrid learning introduced several challenges for students, particularly concerning their year level. Technostress, caused by the increasing demands of technology, emerged as a significant issue as students adapted to new digital platforms, devices, and online communication tools essential to their learning experiences. This descriptive-inferential study, conducted with 260 Medical Technology students from various Medical Colleges in Northern Philippines, examined the impact of technostress and its related challenges, focusing on how these factors varied across different year levels and influenced students' coping mechanisms.The findings revealed that year level was the primary factor influencing the severity of technostress, with first-year students experiencing the highest levels of stress, attributed to their inexperience with the digital learning environment. Year-level differences were also observed in coping strategies, with upper-year students demonstrating more effective approaches, likely due to their greater familiarity with online learning platforms and a deeper understanding of academic expectations. The study further found that factors such as cyberbullying and social isolation had a more significant impact on students' emotional and psychological well-being than other stressors like information overload and physical symptoms. These stressors negatively affected students' coping mechanisms, as many struggled with managing feelings of alienation and harassment in online environments. In conclusion, the study recommended targeted interventions to address the specific challenges faced by students at different year levels, particularly concerning cyberbullying and social isolation. Such interventions could have significantly improved students' ability to cope with technostress, enhanced their overall hybrid learning experience, and ensured better academic performance and well-being in increasingly digital educational landscapes.

.

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

Key words: *Technostress, Coping Mechanism, Hybrid Learning, E-learning*

INTRODUCTION

The COVID-19 pandemic has significantly transformed the educational landscape, requiring faculty members and students to adapt to new teaching and learning modalities. The College of Medical Laboratory Science (CMLS) faculty members and students face unique challenges in delivering and receiving quality education while ensuring competency-based learning. The shift to online, hybrid, and flexible learning setups has required faculty members to integrate innovative teaching strategies while maintaining student engagement and assessment integrity.

Before the pandemic, education primarily revolved around traditional face-to-face instruction, where teachers played the role of direct knowledge providers, guiding students through structured lectures and hands-on laboratory activities. Students, in turn, actively participated in physical classrooms, engaging in discussions, practical exercises, and direct interactions with peers and instructors. Assessments were typically conducted through written exams, in-person presentations, and laboratory-based evaluations. The primary mode of delivery was in-person instruction, ensuring immediate feedback and hands-on training essential for medical laboratory science education.

In contrast, the new normal of education has reshaped not only the roles of teachers and students but also the modes of delivery. Educators have transitioned into facilitators of learning, leveraging digital platforms, multimedia resources, and virtual simulations to enhance the learning experience. Teaching now occurs through various modes, including synchronous learning, where real-time virtual classes foster interaction, and asynchronous learning, where students access pre-recorded lectures and learning materials at their convenience. Hybrid learning, combining face-to-face and online instruction, has become a common approach to accommodate diverse learning needs and maintain competency-based education in medical laboratory science.

This study aims to explore the challenges, motivations, and coping mechanisms of faculty members and students in adapting to the new normal of education. The findings will provide insights into enhancing faculty support systems, improving educational delivery in medical laboratory science programs, and identifying best practices that can be implemented in future crises or educational shifts.

METHODOLOGY

This chapter provides a detailed description of the research approach and design employed in this study. The following sections discuss the research design, research participants, data gathering materials, data gathering procedure, and the method of analysis that will be done in the conduct of this research.

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

Research Design

This study employs a mixed-methods research design, integrating both quantitative and qualitative approaches to gain a comprehensive understanding of faculty members' and students' experiences in adapting to the new normal of education.

Respondents of the Study

The study population consists of faculty members and students from selected institutions offering medical laboratory science programs. Participants were chosen through purposive sampling, ensuring diversity in terms of years of teaching and learning experience, institutional affiliation, and digital literacy levels.

Data Gathering tool

A structured questionnaire was developed, consisting of Likert-scale, multiple-choice, and open-ended questions covering aspects such as technological adaptation, workload management, institutional support, and faculty well-being. Additionally, in-depth interviews were conducted with selected faculty members and students to gather qualitative insights.

Data Gathering Procedure

The questionnaire was disseminated electronically, and responses were collected over a four-week period. Faculty members and students who agreed to participate in interviews were scheduled for virtual discussions via video conferencing platforms. Ethical considerations, including informed consent and confidentiality, were strictly observed throughout the process.

Data Analysis

Quantitative data were analyzed using descriptive statistics, including frequency distributions, mean scores, and standard deviations. Qualitative responses were analyzed using thematic analysis to identify patterns and emerging themes related to challenges, motivations, and coping mechanisms.

RESULT AND DISCUSSION

Challenges Faced by Faculty Members and Students

Faculty members and students reported numerous challenges in adapting to hybrid learning. One of the most prominent difficulties was technological adaptation, as not all students had access to reliable internet connections and digital devices. First-year students struggled the most with transitioning from traditional classroom settings to online learning, reporting higher levels of stress and confusion in navigating virtual platforms. Faculty members, on the other hand, faced difficulties in modifying laboratory-based lessons into digital formats, which significantly impacted practical learning outcomes.

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

Cyberbullying and social isolation also emerged as pressing concerns, particularly among students. Online harassment, negative peer interactions, and lack of face-to-face communication contributed to increased feelings of loneliness and emotional distress. Faculty members noted that maintaining student engagement in virtual classrooms was challenging, as many students exhibited reduced participation, lower motivation, and difficulty focusing in online settings.

Motivational Factors

Despite these challenges, several factors helped sustain motivation for both faculty and students. Institutional support, in the form of training programs, flexible learning schedules, and financial aid for digital resources, played a key role in reducing stress levels. Faculty members found motivation in professional development opportunities, which enhanced their skills in digital pedagogy. Students reported that interactive virtual tools, such as gamified learning activities and real-time feedback mechanisms, improved their engagement and motivation to learn.

Coping Mechanisms

Students and faculty developed various coping strategies to manage the stress associated with hybrid learning. Many students adopted time management techniques, such as scheduling dedicated study hours and using productivity apps, to stay on track with coursework. Faculty members employed innovative assessment methods, such as project-based evaluations and open-book exams, to measure student competencies effectively.

TABLE 1.1. DISTRIBUTION ON THE PROFILE OF THE RESPONDENTS IN TERMS OF YEAR LEVEL

CATEGORY	FREQUENCY	PERCENTAGE
First Year	82	31.50
Second Year	81	31.20
Third Year	55	21.20
Fourth Year	42	16.20
TOTAL	**260**	**100.00**

Table 1.1. revealed that the 31.50 percent of the respondents are first year students, while 16.20 percent are fourth year students. This means that most of the respondents are from lower years.

TABLE 1.2. DISTRIBUTION ON THE PROFILE OF THE RESPONDENTS IN TERMS OF SEX

CATEGORY	FREQUENCY	PERCENTAGE
MALE	72	27.70
FEMALE	188	72.30
TOTAL	**260**	**100.00**

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

Table 1.2. showed 72.30 percent of the respondents are female while 27.70 percent of the respondents are male. This means majority of the respondents are female, implying that medical technologist students in Medical Colleges of Northern Philippines are female dominated.

TABLE 1.3. DISTRIBUTION ON THE PROFILE OF THE RESPONDENTS IN TERMS OF SOCIOECONOMIC STATUS

CATEGORY	FREQUENCY	PERCENTAGE
Below ₱10,727.00	93	35.80
₱10,727.00- ₱21,454.00	97	37.30
₱21,454.00 - ₱42,910.00	54	20.80
₱42,910.00 - ₱107,276.00	14	5.40
Above ₱107,276.00	2	.80
TOTAL	**260**	**100.00**

This table revealed the profile of the respondents according to their socioeconomic status. It showed that 37.30 percent of the respondents falls within the range of ₱10,727.00- ₱21,454.00 with income range falling within lower-middle class or working class, depending on the cost of living in the area while 0.80 percent are of Above ₱107,276.00 which are likely to fall in upper class or upper-middle class.

TABLE 2.1. TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS IN TERMS OF INFORMATION OVERLOAD

STATEMENTS	MEAN	DESCRIPTION
1. Overwhelmed by the amount of information available and task you must manage in a typical day of hybrid learning	3.20	AGREE
2. Constant access to online resources and materials affects your ability to focus and retain information	3.09	AGREE
3. The amount of information received in hybrid learning affected your ability to prioritize and manage your time effectively	3.06	AGREE
4. Expectation to consume large volumes of reading to numerous subjects	3.14	AGREE
5. Overwhelmed by the course load, each with own set of assignments	3.15	AGREE
CATEGORICAL MEAN	***3.13***	***AGREE***

This table shows that it has a categorical mean of 3.13 which is being interpreted as an agree. It also reveals that the statement "Overwhelmed by the amount of information available and task you must manage in a typical day of hybrid learning" got the highest mean of 3.20 which is interpreted as

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

an agree. As noted in the study by Park and Choi (2009), increased workloads and lack of family support have been linked to higher dropout rates in online education, further reinforcing the idea that the high levels of techno-stress experienced by learners may be contributing to disengagement or burnout in some cases.

ABLE 2.2. TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS IN TERMS OF CONSTANT CONNECTIVITY

STATEMENTS	MEAN	DESCRIPTION
1. I feel the need to check phone or other devices for notifications and updates	3.38	STRONGLY AGREE
2. I feel anxious or stressed when unable to access the internet or devices	3.25	STRONGLY AGREE
3. I feel constant connectivity affected ability to connect and relax	3.02	AGREE
4. I feed distracted at home because of different noises	3.25	STRONGLY AGREE
5. I feel anxious or stressed when experiencing technical glitches on software.	3.19	AGREE
CATEGORICAL MEAN	***3.22***	***AGREE***

This table shows that it has a categorical mean of 3.22 which is being interpreted as agree. It also reveals that the statement “I feel the need to check phone or other devices for notifications and updates” got the highest mean of 3.38 which is interpreted as a strongly agree. In a related study, Kapasia et al. (2020) students also reported some challenges that they faced during their online classes. These include anxiety, depression, poor Internet service, and unfavorable home learning environment. The high mean of feeling distracted at home so as anxious and stressed when unable to access the internet and devices aligns with this idea.

TABLE 2.3. TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS IN TERMS OF SOCIAL ISOLOATION

STATEMENTS	MEAN	DESCRIPTION
1. I feel lonely or socially isolated during hybrid learning	**2.58**	AGREE
2. Experience cultural and communication barriers	**2.94**	AGREE
3. Experience difficulties with participating in group work or class discussions in virtual setting	**2.98**	AGREE
4. Experience burnout because of screen fatigue	**3.08**	AGREE
5. Experience limited opportunities for socializing	**3.01**	AGREE
CATEGORICAL MEAN	**2.92**	AGREE

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

This table shows that it has a categorical mean of 2.92, which is being interpreted as agree. It also reveals that the statement “Experience burnout because of screen fatigue” got the highest mean of 3.08 which is interpreted as an agree. Mahmoud Al-Balas (2020) noted challenges in online education, specifically the lack of in-person interaction, which mirrors the findings in this study about the lack of opportunities for socializing and connecting with others. Jeffrey et al. (2014) highlighted the underdevelopment of social presence in virtual classrooms, which makes it harder for students to engage in meaningful participation. This ties in with the respondents' struggles with participation in virtual group work and discussions.

TABLE 2.4. TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS IN TERMS OF SCHOOL RELATED STRESS

STATEMENT	MEAN	DESCRIPTION
1. I feel stressed or overwhelmed by the demands of hybrid learning	2.99	AGREE
2. I feel pressured to increased productivity to meet deadlines leading to burnout	3.21	AGREE
3. Difficulty in separating school and home life	3.02	AGREE
4. I feel stressed due to constant adjustments on hybrid models	2.89	AGREE
5. I feel frustrated due to misunderstanding and lack of clarity in virtual communication	2.97	AGREE
CATEGORICAL MEAN	***3.02***	***AGREE***

This table shows that it has a categorical mean of 3.02, which is being interpreted as agree. It also reveals that the statement” I feel pressured to increased productivity to meet deadlines leading to burnout “got the highest mean of 3.21 which is interpreted as an agree. The students feeling frustrated due misunderstanding and lack of clarity in virtual communication demonstrate alignment with this study. In a study conducted by Lesley Humes (2019), blended learning can cause frequent relocation, leading to disruption in networks and the impact of adapting to different learning styles and environments. This statement relates to the lower mean where students feeling stressed due to constant adjustment on hybrid models.

TABLE 2.5. TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS IN TERMS OF CYBERBULLYING

STATEMENT	MEAN	DESCRIPTION
1. Experienced cyberbullying, harassment, bullying, and other forms of abuse while participating in hybrid learning	2.02	DISAGREE
2. Cyberbullying affected participation and engagement in hybrid learning leading to fear, anxiety, and depression	2.64	AGREE
3. Reported any instances of cyberbullying to a teacher, administrator, or other trusted adult	2.21	DISAGREE

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

4. School or teacher effectively addressed cyberbullying incidents that have occurred during hybrid learning	2.73	AGREE
5. Faced targeted attacks through social media or messaging platforms	2.27	DISAGREE
CATEGORICAL MEAN	***2.37***	***DISAGREE***

This table shows that it has a categorical mean of 2.37, which is being interpreted as disagree. It also reveals that the statement" School or teacher effectively addressed cyberbully incidents that have occurred during hybrid learning" got the highest mean of 2.73 which is interpreted as an agree. On the other hand, the statement "Experienced cyberbully, harassment, bullying, and other forms of abuse while participating in hybrid learning "got the lowest mean of 2.02 which is interpreted as disagree. It further suggests that Cyberbully affected their participation and engagement in hybrid learning leading to fear, anxiety, and depression however they are not faced and targeted attacks through social media or messaging platforms, they did not report any instances of cyberbully to a teacher, administrator, or other trusted adults. In a similar study of Sayed et al. (2023) nearly two-thirds of the students reported low levels of cyber victimization, while nearly two-fifths engaged in low levels of cyberaggression.

TABLE 2.6. TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS IN TERMS OF PRIVACY AND SECURITY CONCERN

STATEMENT	**MEAN**	**DESCRIPTION**
1. Experience any security breaches or issues with online learning platforms	2.57	AGREE
2. Comfortable sharing webcam and microphone during virtual class sessions	2.48	DISAGREE
3. Experienced any difficulties and issues with accessing online class materials or assignments due to security or privacy concern	2.94	AGREE
4. Experienced phishing attempts and malware threats	2.33	DISAGREE
5. Experienced unauthorized access to personal data	2.43	DISAGREE
CATEGORICAL MEAN	***2.55***	***DISAGREE***

This table shows that it has a categorical an of 2.55 which is being interpreted as disagree. It also reveals that methe statement "Experienced any difficulties and issues with accessing online class materials or assignments due to security or privacy concern "got the highest mean of 2.94 which is interpreted as an agree. The high mean of experiencing any difficulties with accessing online class materials or assignments due to security or privacy concern aligns in an article of Tulsiani (2024) in Understanding The importance of Data Privacy.

BORN RMT JOURNAL
OFFICIAL DEPARTMENTAL RESEARCH PUBLICATION OF THE COLLEGE OF MEDICAL LABORATORY SCIENCE
ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

TABLE 2.7. TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS IN TERMS OF PHYSICAL SYMPTOMS

STATEMENT	MEAN	DESCRIPTION
1. Experienced any headaches while participating in hybrid learning	3.19	AGREE
2. Experienced any eye strain while using digital devices for hybrid learning	3.25	STRONGLY AGREE
3. Experienced any neck or back pain while participating in hybrid learning	3.35	STRONGLY AGRE
4. Experienced fatigue from constant virtual interaction and lack of physical movement	3.11	AGREE
5. Experienced sleep disturbances because of irregular schedules and screen exposure before bedtime affected sleep quality	3.26	STRONGLY AGRE
CATEGORICAL MEAN	***3.23***	***AGREE***

This table shows that it has a categorical mean of 3.23 which is being interpreted as agree. It also reveals that the statement" Experienced any neck or back pain while participating in hybrid learning" got the highest mean of 3.35 which is interpreted as a strongly agree. Some people think that the preparation for teaching and learning is more rigorous when using a hybrid approach. This clarifies the concept put forth by Ma'arop and Embi (2016), who described integrated learning as a burden on the body and mind.

TABLE 3.1. COPING MECHANISMS OF THE RESPONDENTS IN HYBRID LEARNING IN TERMS OF EMOTIONAL

STATEMENT	MEAN	DESCRIPTION
1. Positive Self Talk	2.85	OFTEN
2. Meditation or mindfulness practices	2.78	OFTEN
3. Unwinding and talking or going out with friends or family	3.12	OFTEN
4. Journaling or creative outlets	2.45	SOMETIMES
5. Having schedule and healthy habits	2.65	OFTEN
CATEGORICAL MEAN	***2.77***	***OFTEN***

This table shows that it has a categorical mean of 2.77 which is being interpreted as often. It also reveals that "Unwinding and talking or going out with friends or family "got the highest mean of 3.12 which is interpreted as often. The study aligns with previous research, such as Martin, Bautista, and Tabua (2023), which highlights the importance of both social support and individual self-care strategies in managing stress.

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

TABLE 3.2. COPING MECHANISMS OF THE RESPONDENTS IN HYBRID LEARNING IN TERMS OF COGNITIVE

COGNITIVE COPING MECHANISM	MEAN	DESCRIPTION
1. Cognitive Restructuring	2.80	OFTEN
2. Goal Setting to provide motivation	3.07	OFTEN
3. Self-Monitoring to recognize patterns and adjust strategies	2.97	OFTEN
4. Mind Mapping making learning more manageable	2.83	OFTEN
5. Break tasks into smaller steps	3.00	OFTEN
CATEGORICAL MEAN	***2.94***	***OFTEN***

This table shows that it has a categorical mean of 2.94 which is being interpreted as often. It also reveals that “Goal setting to provide motivation” got the highest mean of 3.07 which is interpreted as often. The cognitive coping mechanisms of these students were consistent with the study of Carter et al. (2020) and Rodriguez (2022), which emphasize the use of self-regulation strategies such as goal setting, self-control, and strategic problem-solving as effective coping mechanisms.

TABLE 3.3. COPING MECHANISMS OF THE RESPONDENTS IN HYBRID LEARNING IN TERMS OF BEHAVIORAL

STATEMENT	MEAN	DESCRIPTION
1. Seeking feedback to build confidence	3.02	OFTEN
2. Establishing a routine	2.98	OFTEN
3. Limit distractions	2.80	OFTEN
4. Active Participation to foster sense of belonging and motivation	2.86	OFTEN
5. Regular breaks to prevent burnout	3.00	OFTEN
CATEGORICAL MEAN	***2.93***	***OFTEN***

This table shows that it has a categorical mean of 2.93 which is being interpreted as often. It also reveals that “Seeking feedback to build confidence” got the highest mean of 3.02 which is interpreted as often. This aligns with the study of Fawaz et al. (2021), which emphasized that students seek support and engaging in activities to cope with stress.

TABLE 3.4. COPING MECHANISMS OF THE RESPONDENTS IN HYBRID LEARNING IN TERMS OF SOCIAL

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

STATEMENT	MEAN	DESCRIPTION
1. Social Media Engagement to connect with peers and share resources	3.10	OFTEN
2. Participate in online forums	2.75	OFTEN
3. Virtual study group to collaborate with classmates	2.66	OFTEN
4. Interactive virtual activities such as game nights to strengthen bond	2.57	OFTEN
5. Open dialogue with instructors about online experience	2.45	SOMETIMES
CATEGORICAL MEAN	***2.71***	***OFTEN***

This table shows that it has a categorical mean of 2.71 which is being interpreted as often. It also reveals that "Social media engagement to connect with peers and share resources" got the highest mean of 3.10 which is interpreted as often. This aligns with the study of Hidalgo e al. (2021), they enumerated the different ways students cope up with hybrid learning these includes keeping connections to their classmates so as engaging in self- supporting activities and hobbies.

TABLE 4.1. DIFFERENCE IN THE TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS BASED ON THEIR PROFILE VARIABLES VARIABLES TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS

VARIABLES		TECHNOSTRESS EXPERIENCED BY THE RESPONDENTS						
		INFORMATION OVERLOAD	CONSTANT CONNECTIVITY	SOCIAL ISOLATION	SCHOOL RELATED STRESS	CYBERBULLY	PRIVACY AND SECURITY CONCERNS	PHYSICAL SYMPTOMS
YEAR LEVEL	f-value	10.086	1.42	1.930	4.377	1.970	3.204	1.381
	p-value	.000*	.236	.125	.005*	.119	.024*	.249
SEX	t-value	1.193	.079	1.273	.899	.752	1.466	1.876
	p-value	.234	.937	.204	.369	.453	.144	.062
SOCIO-ECONOMIC STATUS	f-value	.461	1.744	.719	.650	1.415	1.638	1.082
	p-value	.764	.141	.579	.627	.230	.165	.366

The above table reveals that respondent's technostress experienced during hybrid learning is significantly different on the year level variable with a p-value of .000 for information overload,.005 for school related stress and .024 for privacy and security concerns. In contrast to the study of Dr. Christopher Yaw (2017), he stated that financial and family problems are the major causes of stresses in a blended learning.

BORN RMT JOURNAL
OFFICIAL DEPARTMENTAL RESEARCH PUBLICATION OF THE COLLEGE OF MEDICAL LABORATORY SCIENCE
ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

TABLE 4.2. DIFFERENCE IN THE COPING MECHANISMS OF THE RESPONDENTS IN HYBRID LEARNING BASED ON THEIR PROFILE VARIABLES

VARIABLE		THE COPING MECHANISMS OF THE RESPONDENTS IN HYBRID LEARNING			
		EMOTIONAL	COGNITIVE	BEHAVIORAL	SOCIAL
YEAR LEVEL	f-value p-value	3.140 .026*	1.340 .262	.380 .768	2.788 .041*
SEX	f-value p-value	.717 .474	.116 .908	1.358 .176	1.026 .306
SOCIO-ECONOMIC STATUS	f-value p-value	1.346 .253	1.366 .246	.945 .438	1.173 .323

Table 4.2 reveals that respondents coping mechanisms during hybrid learning was significantly different on the year level variable with a p-value of .026 for emotional coping mechanism and .041 for social coping mechanisms. Year level significantly influences the emotional and social coping strategies students adopt in hybrid learning. In context of year level Kumar, P., & Nanda, S. (2018) stated that year level affects the coping strategies used to manage academic stress, it illustrates that first- year students rely more on emotional-focused coping and social support due to transition challenges they face, while upper- year students tend to use problem- focused coping mechanisms, such as improved time management and academic planning.

TABLE 5. RELATIONSHIP BETWEEN THE TECHNOSTRESS EXPERIENCED AND COPING MECHANISMS OF THE RESPONDENTS IN HYBRID LEARNING

VARIABLES		COPING MECHANISMS			
		EMOTIONAL	COGNITIVE	BEHAVIORAL	SOCIAL
INFORMATION OVERLOAD	r-value P-value	.129 *.037	.272 *.000	.338 *.000	.123 *.047
CONSTANT CONNECTIVITY	r-value p-value	-.116 .061	.129 *.037	.181 *.003	.048 .443
SOCIAL ISOLATION	r-value P-value	.143 *.021	.195 *.002	.354 *.000	.089 .152
SCHOOL RELATED STRESS	r-value P-value	.018 .770	.200 *.001	.301 *.000	.088 .158
CYBERBULLYING	r-value P-value	.281 *.000	.232 *.000	.312 *.000	.205 *.001
PRIVACY AND SECURITY CONCERNS	r-value P-value	.178 *.004	.158 *.011	.151 *.015	.173 *.005
PHYSICAL SYMPTOMS	r-value P-value	-.044 .484	.132 *.034	.166 *.007	.008 .0903

Table 5. examined the relationship between the techno-stress experienced and coping mechanisms of the respondents in hybrid learning. The component information overload of the techno-stress experienced showed a negligible correlation to low correlation with all the four components of

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

coping mechanisms with r-values from 0.123 to 0.338. All correlations here have a p-value of $\leq$0.05 indicating a statistically significant. This may suggest that information overload is one of techno-stress being experienced by respondents that needed coping mechanisms.

Gustafsson, J., & Olsson, M. (2018) concluded that technostress in e-learning environments can have a significant impact on students' well-being and academic performance. They also emphasized the importance of understanding how different types of technostress (such as information overload, technical difficulties, and constant connectivity) influence the coping mechanisms students use.

Conclusions

This study provides a comprehensive understanding of the challenges, motivations, and coping mechanisms of faculty members and students adapting to the new normal in medical laboratory science education. The findings suggest that while faculty members and students faced difficulties with technological adaptation and increased workload, institutional support, professional development, and peer collaboration played crucial roles in sustaining motivation. Coping strategies such as innovative teaching and learning approaches, stress management, and work-life balance contributed to resilience.

RECOMMENDATION

1. Institutional Support and Training – Universities should continuously offer faculty and student development programs focusing on digital literacy and effective online teaching strategies. Institutions must ensure that all educators and learners receive comprehensive training on online platforms, digital tools, and adaptive teaching strategies to enhance their confidence in the hybrid learning environment.
2. Technology Infrastructure Improvement – Institutions should prioritize investment in stable internet connectivity, advanced learning management systems, and upgraded digital resources to ensure seamless hybrid learning. Providing subsidized access to digital tools and reliable internet services for students and faculty members in remote areas can help bridge the digital divide.
3. Mental Health and Well-being Initiatives – Schools should expand and strengthen mental health programs by offering virtual counseling services, peer support groups, and faculty wellness programs. Institutions must proactively address stress-related issues by integrating mindfulness workshops, self-care activities, and stress management training into the curriculum.
4. Hybrid Learning Enhancements – Further research should explore the effectiveness of blended learning models, with a strong focus on laboratory-based activities for medical laboratory science students. Institutions should implement simulated learning environments, virtual laboratory experiences, and periodic hands-on training sessions to ensure the development of practical skills essential to their field.
5. Academic Integrity and Student Engagement Strategies – Universities should establish innovative assessment methods such as project-based evaluations, competency-based learning assessments, and open-book exams to maintain academic integrity in hybrid learning. Interactive digital tools such as gamification, discussion forums, and real-time feedback mechanisms should be integrated into the learning process to boost student engagement.

Future Preparedness and Crisis Management – Institutions should develop crisis-response frameworks and alternative learning strategies to ensure a seamless transition to digital education in future emergencies. A long-term plan for integrating hybrid learning should be formulated to accommodate evolving educational demands, ensuring resilience against future disruptions.

.

REFERENCES

Abel V. Alvarez, Jr (2020) Learning from the problems and challenges in blended learning: Basis for faculty development and program enhancement

Al-Balas, M., Al-Balas, H.I., Jaber, H.M. et al. Correction to: Distance learning in clinical medical education amid COVID-19 pandemic in Jordan: current situation, challenges, and perspectives. BMC Med Educ 20, 513 (2020)

Brame, C. J. (2016). Effective educational videos: Principles and guidelines for maximizing student learning from video content.

Cajilig, N. (2009). Integration of information and communication technology in mathematics teaching in Metro Manila public secondary schools.

Coldwell, J., Craig, A., Paterson, T., & Mustard, J. (2008). Online students: Relationships between participation, demographics and academic performance.

Demirkol, M., & Kazu, I. Y. (2014). Effect of blended environment model on high school students' academic achievement.

Dinning, T., Magill, C., Money, J., Walsh, B., & Nixon, S. (t.t.). Can A Blended Learning Approach Enhance Students' Transition Into Higher Education?

Doghonadze, N., Dolidze, T., & Vasadze, N. (2021). Face-to-Face, Hybrid and Online English as a Foreign Language Learning Efficiency in Higher Education (Georgian and Italian students' views)

Edelyn Alicar Cadorna, Jake Brillo Garnace, Janet Tabasan Molina, Christian Siruno Domondon, Jeffrey Estelero Galangco (2023) :Development of Technostress Scale For Filipino Students Using Exploratory and Confirmatory Factor Analysis

El Refae, Ghaleb A. , Kaba, Abdoulaye and Shorouq Eletter (2021): The Impact of Demographic Characteristics on Academic Performance: Face-to-Face Learning Versus Distance Learning Implemented to Prevent the Spread of COVID19

Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education.

Gong J, Ruan M, Yang W, Peng M, Wang Z, Ouyang L, Yang G. 2021. Application of blended learning approach in clinical skills to stimulate active learning attitudes and improve clinical practice among medical students.

Gustafsson, J., & Olsson, M. (2018). Technostress and Coping Mechanisms among Students in Higher Education: The Case of E-Learning. Education and Information Technologies

Hidalgo, Jean , Julia C. Cadavisb , Aretha Louise S. Matienzoc , Kristine Karyll T. Lanzarroted , Eldrette Maurice E. Del Rosarioe A Phenomenological Study on Online Learning Set-up: Challenges and Coping Mechanisms of Senior High Students

Jamillah Martin, Charlemagne Bautista, Anabelle Tabua, and Darin Jan Tindowen (2023) : Scholarum: Journal of Education : Academic Stress and Coping Strategies of Students in Flexible Learning Research Article

Jessie S. Barrot, Ian I. Llenares, and Leo S. del Rosario (2021): Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines

Kumar, P., & Nanda, S. (2018) : Coping Strategies and Academic Stress Among University Students: The Role of Academic Year and Social Support Journal: Journal of Educational Psychology

Lesley Hulmes, (2019):Health action Research group:Challenges for Medical Students

Lim, A. (2021). Why Blended Learning Is Not For Everyone.

Ma'arop, A. H., & Embi, M. A. (2016). Implementation of blended learning in higher learning institutions: A review of the literature.

Michail Papapanou, Eleni Routsi, Konstantinos Tsamakis, Lampros Fotis, Georgios Marinos, Irene Lidoriki, Marianna Karamanou, Theodore G Papaioannou, Dimitrios Tsiptsios, Nikolaos Smyrnis, Emmanouil Rizos, Dimitrios Schizas (2022). Medical education challenges and innovations during COVID-19 pandemic

Mugenyi Justice Kintu, Chang Zhu & Edmond Kagambe (2017) Blended learning effectiveness: the relationship between student characteristics, design features and outcomes

Muhammad Al Roomy, Abdulaziz Althewini (2019) :The Impact of Blended Learning on Medical Students' Reading Performance in a Saudi University

Napoles, M. A., Lacbayin, S. M., Pellerin, J., & Rodriguez, J. R. (2022, April 13). Coping Mechanism among College Students on Stress in Laboratory Activities in Time of Pandemic.

Nyatsanza, Taurai D 1 , Mtezo, Justina Z (2013): Coping mechanisms used by students in open and distance learning (ODL) in response to stressful events. A case study of the Zimbabwe Open University (ZOU)

Oxford Group, (2013). Blended learning-current use, challenges and best practice. (2016).

Park, J.-H., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. Educational Technology & Society.

Picciano, A., & Seaman, J. (2007). K-12 online learning: A survey of U.S. school district administrators.

Saklofske, D. H., Austin, E. J., Mastoras, S. M., Beaton, L., & Osborne, S. E. (2012). Relationships of personality, affect, emotional intelligence and coping with student stress and academic success: Different patterns of association for stress and success.

Samiha Sayed (2023) Cyberbullying among University Students during the E-learning Transformation Era: The Role of the Student-Teacher Relationship and Virtual Classroom Community.

Shraim, K., & Khlaif, Z. N. (2010). An e-learning approach to secondary education in Palestine: opportunities and challenges.

Sideridis, G. D. (2008). The regulation of affect, anxiety, and stressful arousal from adopting mastry-avoidance goal orientations.

Skulmowski, A., & Rey, G. D. (2020). COVID-19 as an accelerator for digitalization at a German university: Establishing hybrid campuses in times of crisis.

Soekartawi. (2006). Blended e-Learning: Alternatif Model Pembelajaran Jarak Jauh.

ISSN:3082-4249 MAIDEN ISSUE VOL. 1 NO. 1

Soliman, M. (2014). Perception of stress and coping strategies by medical students at King Saud University, Riyadh, Saudi Arabia.

Tulsiani (2024) Safeguarding Data Privacy and Security in Elearning

Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., & Ragu-Nathan, T. (2013). The impact of technostress on role stress and productivity. Journal of Management Information Systems.

Urtel, M. G. (2008). Assessing academic performance between traditional and distance education course formats.

Villanueva, J. A. R. (2021). Teaching presence in K–12 blended learning classes under the alternative delivery mode.

Vilo, Anna Marie Ewican and Taha, Hapifa Sakilan (2023): Effectiveness on the Use of Blended Learning Approach (BLA): Its Implications on the Students' Performance