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The Difficulties Faced By Students And Their Coping Strategies When Learning Mathematics In The New Normal

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ABSTRACT :

A descriptive-correlational research design was employed in this study. The respondents of the study were the Grade 12 learners of Hafed Almadani High School, Bani waleed , Libya for the school year 2020-2021. The method of stratified sampling was applied.. The instrument of the study was adopted from different researchers. The second and third part of the survey questionnaire was adopted from the study of Barrot (2020). Several statistical tools were used to interpret and analyze the data that were gathered in the study. Descriptive statistics such as frequency counts, percentages, mean and standard deviation were used to determine the profile of the learners. More so, weighted means and five-point Likert scale were also used to determine learner's Challenges encountered in the new normal set-up of education and their coping mechanisms. Furthermore, T-test and Analysis of Variance (ANOVA) was utilized to determine the significant difference on the Challenges and learners' coping mechanisms of the respondents when grouped according to their profile variables. On the other hand, Pearson Product-Moment Correlation was employed to determine any relationship that exists between the Challenges and coping mechanisms of the respondents in learning Mathematics. The data that was gathered in the study was interpreted at 0.05 level of significance. The study found out that majority of the learners are female and second child, with parents who are high school graduate and most of the fathers are engaged in farming while most of the mothers are housekeepers. More so, majority of the learners' parents have a monthly income ranging from 3,000 and below.

Keywords: coping mechanisms, new normal, Descriptive statistics, learners'

Introduction :

Coping mechanisms are methods that people commonly use to deal with difficult emotions or circumstances. They help people respond to stressful events while still maintaining their mental health. Furthermore, coping skills provide student a more challenging, resilient self-capable of learning in a far more productive way and enhance their attendance, participation, and tenacity in the face of challenges or failure.

Regarding the difficulties the students faced in the new normal educational environment, it was discovered that they were unable to control their negative thoughts, feelings, and behaviors when learning mathematics; they had poor time management skills; they lacked knowledge and training regarding the use of technology in the New Normal, particularly when it came to learning mathematics; they felt emotionally distant or alone in the classroom; they did not understand the subjects covered by the teacher; they had poor Internet access when taking mathematics classes online; and they did not have enough access to learning resources. In general, the students concurred that they faced difficulties with self-control; they disagreed that they faced difficulties with student isolation, technology sufficiency, and learning resources; and they were unsure if they faced difficulties with technology literacy or competency issues..

Further, as to coping mechanism of the learners along support system, it was found that the learners are always deepening or solidifying their Mathematics learning by accessing instructional videos readily available on the internet; they always reconnect with friends through Teleconferencing apps such as Messenger, Face time, Instagram and etc. to lessen their stress in my Mathematics class; and they always read books to widen their vocabulary knowledge while at home before/after answering their Mathematics SLMs. Generally, the learners often practice support system as their coping mechanism while they sometimes practice relaxation and physical wellness as their coping mechanism to manage their Challenges.

Lastly, it was found the learners do not significantly differ on the Challenges in the New Normal set-up of Education when grouped according to profile, however, the learners significantly differ on their coping mechanism along support system when they are grouped according to birth order. Also, learners' Challenges along self-regulation, technology literacy, student isolation, and learning resources are significant related to learners' coping mechanisms along support system, relations and physical wellness while learners' Challenges along technology sufficiency is significantly related to learners' coping mechanism along support system and physical wellness.

Results And Findings :

2.1. Students' Profile

Table 1 presents the distribution of the respondents in terms of profile variables. This shows that Grade 12 learners at Hafed Almadani High School for the school year 2020-2021 are female-dominated. This is supported by the enrollment data of the said school for this school year. More so, as to the students' birth order, it was found that 38, or 27.25 percent, of the learners are second children, while 34, or 24.40 percent, are third children, and 32, or 23.05 percent, are first children. This finding means that the majority of the learners are second children. Looking into parents' highest educational attainment, the finding shows that along Fathers' educational attainment, majority (58 or 41.20 percent) of the learners' fathers are high school graduates while 24 or 16.05 percent are college graduate. On the other hand, mothers' highest educational attainment reveals that majority (60 or 41.00 percent) are high school graduate while 38 or 25.00 percent are college graduate. This implies that both of the learners' parents have the capability to scaffold their children with their studies. This further attest that having the right education comes with upright moral values and enough knowledge which they can share with their children in their academic endeavor during this distance learning.

On parents' occupation, majority (81 or 56.01 percent) of the learners' fathers are engaged in farming. Learners' mothers are plain housewives bearing a result of 82 or 56.90 percent. This is a clear piece of evidence that traditional parenting is still present in the society where fathers are typically the provider of the family while mothers are homemakers.

Meanwhile, on parents' monthly income, 78 or 55.10 percent of the mothers while 90 or 63.10 percent of the learners' fathers have a monthly income below of 3,000 DL . This finding means that the learners belong to a family whose monthly income is lower than the minimum income set by the Libyan Statistics Authority (2018) which is 5,000 DL.

Table 1. Distribution of the respondents in terms of profile variables

	Frequency (N=140)	**Percentage**
Sex		
Male	59	41.96
Female	81	58.04
Birth Order		
First	32	23.05
Second	38	27.25
Third	34	24.40
Fourth	15	10.48
Fifth	15	10.48
Sixth	4	2.80
Seventh	2	1.50
Father's Educational Attainment		
Elementary Level	12	8.39
Elementary Graduate	11	7.69
High School Level	7	6.29
High School Graduate	58	41.20
Technical/Vocational Graduate	8	5.59
College level	13	9.09
College Graduate	24	16.05
With Masteral Units	3	2.10
Masteral Graduate	2	1.40
PHD units	1	1.40
No response	1	0.70

Mother's Educational Attainment		
Elementary Level	10	60
Elementary Graduate	7	6.01
High School Level	8	6.10
High School Graduate	60	41.00
Technical/Vocational Graduate	4	2.80
College level	5	4.05
College Graduate	38	25.00
With Masteral Units	4	3.50
Masteral Graduate	4	3.50
Father's Occupation		
Military/Police	6	4.81
Trading	11	7.69
Overseas employment	2	1.40
Administrative/clerical job	21	14.69
farming/fishing	81	56.01
Housekeeper	9	7.21
Not Employed	2	1.40
Teacher	6	4.20
No response	2	2.05
Mother's Occupation		
Military/police	6	4.50
Trading	3	2.10
Overseas employment	14	10.20
Administrative/clerical job	7	4.90
Farming/fishing	8	5.59
Housekeeper	82	56.90
Not employed	5	4.01
Teacher	15	10.23
Father's monthly income		
3,000 and below	78	55.10
3,001-3,500	30	21.11
3,501-4,000	12	8.39
4,001-4,500	7	4.01
4,501-4,700	6	3.50
5,000-Above	7	4.01
Mother's Monthly Income		
3,000 and below	90	63.10
3,001-3,500	9	6.29
3,501-4,000	10	7.05
4,001-4,500	16	11.89
4,501-4,700	7	4.90

5,000-Above	8	4.50

2.2. Learners' encountered Challenges in the new normal set-up education

2.2.1. Self-regulation Challenges

As to learners' encountered challenges along self-regulation, Table 2 indicates that the learners averagely display the ability to manage their thoughts, emotions, and behaviors, especially in learning mathematics. During the interview, the learners professed that they find it hard to learn math; hence, they can hardly display the ability to remain calm, adapt, and respond appropriately when learning mathematical concepts. Zimmerman (2004) suggests that self-regulation is the process by which learners transform mental abilities into functional skills for independent use in the academic domain. Students who are self-regulated set themselves relevant goals and then select suitable task-related strategies. These students then self-monitor during the learning process, and their motivation is enhanced as their mathematics learning methods prove to be successful.

. In addition, the category mean of 3.80 added that the learners do not highly set goals for their mathematics learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features of the environment; hence, the learners still need to be sensitive to their own academic strengths and weaknesses and be able to apply appropriate strategies to tackle specific academic tasks, especially in the New Normal set-up of education.

Table 2. Student Isolation Dimension of Learners' encountered Challenges in the new normal set-up education

Self-regulation Challenges	Mean	Descriptive value
1. I delay tasks in my Mathematics subject so that they are either not fully completed by their deadline or had to be rushed to be completed.	2.50	Undecided
2. I fail to get appropriate help in my Mathematics modules Mathematics online class.	3.80	Agree
3. I lack my ability to control my negative thoughts, emotions, and actions in learning Mathematics.	4.24	Strongly Agree
4. I have poor time management skills in my Mathematics modules which makes me rush the SLMs needed to be passed.	3.75	Agree
5. I fail to properly use peer learning strategies (learning from one another to better facilitate learning such as peer tutoring, group discussion, and peer feedback) in my Mathematics modules.	3.90	Agree
Category Mean	*3.80*	*Agree*

Competency Challenges

Table 3 indicates that the learners still find it difficult to master the needed competence in mathematics education. During the interview, the learners also professed that their modules include using a student-centered methodology of instruction that incorporates elements of constructivist philosophy, 21st century skills education, and flexible learning models; however, they find it difficult to learn mathematical procedures on their own, which limits them from acquiring sharp computational skills and, therefore, displaying poorer complex problem-solving skills and conceptual understanding of mathematics itself.

Table 3 Technological Sufficiency Challenges Dimension of Learners' encountered Challenges in the new normal set-up of education

Competency Challenges		
1. I have poor understanding of directions and expectations in my Mathematics subject.	2.55	Disagree
2. I lack understanding on the topics discussed by the teacher.	3.90	Agree

3. I have poor comprehension on the mathematical terms used by the teacher during discussion.	2.40	Disagree
4. I don't have mastery of the fundamental operations in Mathematics.	2.70	Undecided
5. I don't possess critical thinking and problem-solving skills.	3.00	Undecided
6. I have limited preparation and knowledge about our lessons in Mathematics in the New normal.	2.30	Disagree
Category Mean	***2.85***	***Undecided***

Technological complexity challenges

The technological complexity challenges of the learners are shown in Table 4. As can be seen, they strongly agreed that they were distracted by the complexity of the technology during mathematics class (1.70). They also disagreed that they experience difficulties using complex technology when accomplishing tasks in mathematics (2.40) and when using longer videos for learning (2.29). This finding means that the learners did not encounter any difficulties when it came to technology.

Table 4. Overall Dimensions of Learners' encountered Challenges in the new normal set-up of education

Technological complexity Challenges		
1. I am distracted by the complexity of the technology during Mathematics class.	1.70	Strongly Disagree
2. I experience difficulties in using complex technology when accomplishing tasks in Mathematics.	2.40	Disagree
3. I experience difficulties when using longer videos for learning.	2.29	Disagree
Category Mean	2.15	Disagree

2.4Learners' coping mechanisms employed to manage their Challenges

2.4.1 Support System

As to the coping mechanisms of the learners along with the support system, Table 5 indicates that the learners are deepening or solidifying their mathematics learning by accessing instructional videos readily available on the internet. Also, they seek social support and social interaction to provide them with practical or emotional support in learning math. Hence, Hanz (2020) noted that having mathematics learning support enhances student learning and confidence.

Also, during the interview, the learners professed that they cope with difficulties in learning math by asking their friends and family members regarding the mathematical procedures indicated in the self-learning modules; however, most of the time, they are browsing the internet with eLearning videos, which are very powerful learning tools as they improve knowledge transfer, demonstrate complex procedures, and help explain difficult topics.

Table 5. Support System Dimension of learners' coping mechanisms employed to manage their Challenges

A. Support System	Weighted Mean	Descriptive value
1. I ask for assistance from any of my friends, family members and knowledgeable others to help me in my Mathematics lessons.	3.80	Often
2. I have a well-managed schedule to avoid conflict between answering Mathematics module and doing household chores.	2.30	Rarely
3.I create new routines to align my schedule in answering Mathematics modules to jive with your parents' availability.	3.95	Often

4.I consult my teachers through social media platforms to help me in my Mathematics modules.	2.96	Sometimes
5.I watch Youtube videos and other videos as references to support lectures in Mathematics class.	4.61	Always
Category Mean	3.60	Often

Comparison on the Challenges of the respondents when grouped according to the profile variables

Table 6 shows that the learners do not significantly differ on the Challenges in the New Normal set-up of Education when grouped according to profile variables as reckoned by the computed probabilities higher than 0.05 level of significance. This finding indicates that regardless of learners' sex, parent's' occupation, educational attainment and monthly income, they have the same level of Challenges along Self-regulation, Technology Literacy, Student Isolation, Competency, Technology Sufficiency, Technological Complexity, and Learning Resource challenges.

Table6. Comparison on the Challenges of the respondents when grouped according to the profile variables

	Self-regulation	**Technology Literacy**	**Student Isolation**	**Competency**	**Technology Sufficiency**	**Technological Complexity**	**Learning Resource**
Sex	0.1779	0.2406	0.1443	0.3302	0.2345	0.5236	0.4723
Birth Order	2.1962	0.1702	0.9943	0.1803	1.8676	1.8936	1.8300
Mother's Education	0.1989	0.5822	0.4827	0.9421	0.7221	0.5003	0.8903
Father's Education	0.7381	1.2857	1.3989	0.6145	1.0232	0.7325	0.9375
Mother's Occupation	1.0199	2.1519	0.6779	0.7097	1.0655	1.2259	0.7913
Father's Occupation	0.4111	1.1838	0.4059	0.5866	0.9258	1.0192	0.8159
Mother's monthly income	0.3045	1.4913	1.7548	1.4540	1.9466	1.5396	2.2645
Father's monthly income	0.3299	0.7174	1.9956	0.4656	1.7565	1.3427	1.5203

*Significant @0.05 level of Significance; ** @ 0.01 level of Significance

2.6. Comparison in the coping mechanisms of the respondents when grouped according to the profile variables

Table 7 shows that the learners significantly differ in their coping mechanisms and support systems when they are grouped according to birth order, as reckoned by the f-value of 3.232 and a computed probability of 0.003. This finding indicates that first-born students tend to uphold a stronger support system as their coping mechanism than second-born children. This finding constitutes the fact that first-born children have their parents all to themselves for a period of time because it is their first time being parents; they tend to dole out attention to them; hence, these students tend to still look for their parents' attention as their support system. Rivera (2020) also found that children of higher order of birth, that is, those born second, third, or further on from the first child, receive less quality parental cognitive stimulation such as reading with the child, cultural outings, or the availability of learning resources in the house, which limits them from asking for support among their parents and even from their friends.

Table 7. Comparison in the coping mechanisms of the respondents when grouped according to the profile variables

	Support System		**Relaxation**		**Physical Wellness**	
	t/f value	**Prob**	**t/f value**	**Prob**	**t/f value**	**Prob**
Sex	0.016	0.807	1.056	0.308	0.009	0.820
Birth Order	3.232*	0.003	0.989	0.435	1.813	0.101
Mother's Education	0.733	0.662	1.148	0.336	0.716	0.677

Father's Education	1.100	-.367	0.976	0.467	1.373	0.189
Mother's Occupation	0.846	0.551	1.903	0.074	1.328	0.323
Father's Occupation	0.500	0.833	0.639	0.723	0.681	0.596
Mother's monthly income	1.445	0.212	2.231	0.055	1.440	0.218
Father's monthly income	1.985	0.093	1.009	0.425	1.656	0.134

*Significant @0.05 level of Significance; ** @ 0.01 level of Significance

2.7. Correlation between the Challenges and coping mechanisms of the respondents

Table 8 shows that learners' challenges along self-regulation, technology literacy, student isolation, and learning resources are significantly related to learners' coping mechanisms along support systems, relations, and physical wellness, while learners' challenges along technology sufficiency are significantly related to learners' coping mechanisms along support systems and physical wellness, as reckoned by their respective computed probabilities less than 0.05 level of significance.

As shown, learners' challenges along self-regulation (0.615), technology literacy (0.033), student isolation (-0.665), technology sufficiency (-0.715), and learning resources (-0.755) are significantly related to learners' coping mechanisms along the support system, with respective computed probabilities less than 0.05. This finding indicates that the more the learners struggle with their ability to transform mental abilities into functional skills for independent use in the academic domain and their ability to use various interfaces or systems that allow them to control a computer or another embedded system for studying mathematics, the more they need support systems such as asking for assistance from any of their friends, family members, and knowledgeable others to help them in their mathematics lessons. Also, learners who have encountered lesser challenges along student isolation, technology sufficiency, and learning resources also exhibit support systems such as watching Youtube videos and other videos as references to support lectures in mathematics class and consulting their teachers through social media platforms to help them in their mathematics modules since they do not feel emotionally disconnected or isolated during mathematics class; and they have sufficient access to learning technology and have Internet access during mathematics class.

In addition, learners' challenges along self-regulation (0.366), technology literacy (0.480), student isolation (-0.355), and learning resources (-0.165) are significantly related to learners' coping mechanisms along relaxation, with respective computed probabilities less than 0.05. This finding indicates that the more the learners struggle with their self-regulation and competence with the use of technology in learning math, the more they engage themselves in relaxing activities in order to be refreshed and to be more motivated and focused on learning mathematics. Also, learners who have encountered lesser challenges along with student isolation and learning resources tend to exhibit relaxation as their coping mechanism since they have the resources to reconnect with friends through teleconferencing apps such as Messenger, FaceTime, Instagram, etc. to lessen their stress in my mathematics class.

Lastly, learners' challenges along self-regulation (0.315), technology literacy (0.360), student isolation (-0.716), technology sufficiency (-0.853), and learning resources (-0.795) are significantly related to learners' coping mechanisms along physical wellness, with respective computed probabilities less than 0.05. This finding indicates that the more the learners struggle with their self-regulation and technology literacy, the more they engage themselves in activities such as reading books to widen their vocabulary knowledge while at home before or after answering their mathematics SLMs. Also, learners who have encountered lesser challenges along student isolation, technology sufficiency, and learning resources tend to exhibit physical wellness activities as their coping mechanisms to escape when they feel stressed out in answering their mathematics SLMs.

Table 8. Correlation between the Challenges and coping mechanisms of the respondents

	Support System		**Relaxation**		**Physical Wellness**	
	r-value	**Prob**	**r-value**	**Prob**	**r-value**	**Prob**
Self-regulation	0.615*	0.000	0.366*	0.000	0.315*	0.000
Technology Literacy	0.033	0.712	0.480*	0.000	0.360*	0.000
Student Isolation	-0.665*	0.000	-0.355*	0.000	-0.716*	0.000
Competency	0.025	0.801	-0.081	0.313	0.165	0.065
Technology Sufficiency	-0.715*	0.000	-0.051	0.550	-0.853*	0.000
Technological Complexity	-.666*	0.000	.045	0.611	-.819*	0.000
Learning Resource	-0.755*	0.000	-0.165*	0.035	-0.795*	0.000

*Significant @0.05 level of Significance; * @ 0.01 level of Significance

3. Conclusions :

Based on the results of the study, it is concluded that in the New Normal set-up of education, learners' find difficulty transforming their mental abilities into functional skills for independent use, especially in learning mathematics. However, to cope with the difficulty they encountered in the New Normal set-up of education, the learners are often deepening or solidifying their mathematics learning by asking for assistance among their family, friends, and even teachers, and they sometimes wind down and feel more relaxed, and they at times do activities that involve physical wellness.

In addition, first-born learners highly cope with difficulty learning math, especially in the New Normal set-up of education, by receiving support and assistance from other people. Also, learners who struggle with their self-regulation have encountered lesser challenges along with student isolation, and learning resources cope through support systems, relationships, and physical wellness activities. Meanwhile, learners who faced challenges along the technology literacy path in learning mathematics coped through relaxation and physical wellness coping mechanisms; however, learners who encountered lesser challenges along the technological complexity path coped through support systems and physical wellness coping mechanisms.

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