

Warming Up Bases for Preparing Students to Mathematics and Physics Tests

⁽¹⁾Eman Almuhur, ⁽²⁾Husam Miqdad, ⁽³⁾Tasneem Alayed, ⁽⁴⁾Tala Sasa

*Department of Basic Science and Humanities,
Applied Science Private University, Amman, Jordan.*

ABSTRACT

Purpose of the study: The present study sheds lights on a developed instrument that measures students' anxiety concerning their fear of mathematics and physics tests. We make a comparison between levels of anxiety and self-confidence. We discussed methods mathematics and physics lecturers can carried out to prepare students for tests professionally in terms of enhancing students' self-confidence, giving skills that enable them to deal with problems they face in studying such courses dexterously and directing them to the effective study techniques, time management manners and how to increase believing in their selves, their self-efficacy and self-esteem which are interchangeably stand side by side with self-confidence.

Methodology: The study basically depends on empirical data gathered from the responses of 543 students of Applied Science Private University. The quantitative data collection instrument comprises systematic questionnaires consists of three main parts: challenges, merits and improvement proposals. Each section of our research is followed by the research instruments.

Applications: Results help in providing insights and guidance for lecturers, leaders and policymakers in determining the evolving needs of students.

Originality: Inadequate attention of studies focusses on skills that polish the student's personality and enable him to challenge problems he faces in study, especially the study of mathematics and physics. Thus, our research investigates effective methods for fulfilling that through highlighting the challenges, merits and improvements.

Findings: Warming up bases raise students' self-confidence and decrease their anxiety toward mathematics and physics tests. Students who realize those bases well and follow them noticed that their academic performance is improving. The challenges are fundamentally related to the procedures we are conducting to make students convinced that fears will gradually vanish and self-confidence will be reinforced.

Keywords: Mathematics, Physics, Tests, Confidence, Anxiety, Warming up.

1. INTRODUCTION

Lots of students feel that their minds freeze, hearts beat fast, breath barley and become anxious before and during mathematics and physics tests. The harder they are pushed to think deeply, the fewer they responded to questions they receive, even their gestures and overall behaviors. An effective anxiety managing actually helps those students in performing their tests well, warm-up activities aid students in turning off the outside and focus on tasks at hand [6]. In addition, employing the holistic learning that primes students with the basics of the course material beside reinforcing their skills and abilities puts students in "mathematics" or "physics" mode, providing students with course material basics and if such materials fully understood, students will be inspired to develop a warm up skills before tests [17].

The big challenges faced by mathematics and physics lecturers is to recognize when the student's anxiety has raised past an optimal level and negatively impacts their abilities to complete tests, to try substantially to teach them different ways to overcome feeling anxious specially controlled relaxation methods, to persuade them that mathematics and physics being taught can be applied to everyday life and to alleviate their anxiety using different methods by building up confidence levels [16].

Merits and positive effects of training how to deal with test's anxiety include improving academic performance, decreasing frustration, stress and distress, raising self-control and self-confidence, training students deep muscle relaxation that is extremely good for their health's and pairing breath exhalations to a word "calm" to push students to the "comfort zone". Lots of the behaviors students with anxiety express could be perfect qualities if they are channeled in the right way [22]. Students can explore secret strengths inside of these behaviors. In the sense the brain catalogues everything that might go wrong in every situation since those students have a little control over such totally exhausting thoughts and respond effectively to threat than who are without anxiety, actually they will be capable of dealing with threat than others [4].

Our improvements are summarized in easing fear and anxiety students suffer from before and during tests, making students feel that they are conscientious, intelligent, detail-oriented, have high levels of crisis response and able to embrace moments and their selves [18]. Students are in a golden age of tracking their steps, sleep, time on social media and other sites deemed "productivity killers", one thing still need to be tracked or think about is the amount of time they spend worrying from tests.

2. PROBLEM STATEMENT, PARTICIPANTS, RESEARCH HYPOTHESIS

All students in our university deserve to have instructors who are sufficiently interested about them in order to have a space to make mistakes and learn beside getting good grades. Delineate routes of understanding and memorizing mathematics and physics, study activities and deep intention to produce a tightly structured knowledge object that enable them to guarantee the best academic performance.

The survey conducted on the undergraduate students of Applied Science Private University; it includes 543 students representing four faculties: pharmacy, arts and science, information technology and engineering. The first survey concerns mathematics is created to find out how far students have anxiety and self-confidence before, during and after mathematics tests.

The survey has two parts, the first one concerns self-confidence and anxiety students feel in mathematics tests, and the second part concerns self-confidence and anxiety students feel in physics tests, some questions researchers are embarked with and correlated hypothesis related to anxiety and confidence before, during and after mathematics and physics tests. Hence, we are investigating the scopes and levels of anxiety and self-confidence students by proposing these hypothesis:

H₁: If a student has an anxiety, this will negatively affect his academic performance.

H₀: If a student has a self-confidence, this will positively affect his academic performance.

Reliability and validity of the results we have got came from inductive statistical analysis. For the first part of the survey, 252 students filled it up. Demographic characteristics of our study sample reveal that about 88.1% of surveys' participants are females and 11.9% are males. Approximately, 22.6% of students recruited in this study are in the first academic year, 35.7% which is a majority of students of the second academic year from different faculties filled the survey, 24.2% are in the third academic year, 6.3% of them are in the fourth academic year, 6.7 are in the fifth academic year, 0.4% are in the sixth academic year and 10 students representing 4% are in the seventh academic year. The second part includes 291 students representing four faculties: arts and science with 3.8%, engineering 29.9%, pharmacy with 54.3% and information technology 12% of students who take part in filling the survey. Approximately, females represent 56% and males represent 44% of our study concerning physics.

3. PROCEDURE

During the Calculus I and Physics I courses of the second semester of 2020-2021 academic year, we asked students to fill out questionnaires.

4. STATISTICAL ANALYSIS

Statistical analysis was developed using STATA software program, version 16 (Stata Corporation. College Station, Tx).

5. MATHEMATICS PART OF THE SURVEY

Table (1) displays student's responses to the levels of the variables where the measures mean and standard deviation are evaluated for each item and ranked in a descending order according to mean. Namely, higher mean value signalizes more agreement on that item.

Table (1): Mean, Standard Deviation and Attitude for Items of Confident

Rank	Item No.	Item	Mean	Standard Deviation	Attitude
1.5	3	I think I can complete all mathematics projects.	3.000	0.0000	Always
1.5	4	I think I know mathematics bases well	3.000	0.0000	Always
3	7	I hope I know mathematics well	2.417	0.6095	Always
4	11	I think I can solve mathematics problems in physics	2.413	0.6090	Always
5	5	I think I can understand topics of mathematics subjects	2.325	0.5621	Sometimes
6	12	I feel confident when using mathematics outside university	2.274	0.6743	Sometimes
7	2	I think I can do well on mathematics tests	2.242	0.5654	Sometimes
8	9	I think I can solve mathematics problems	2.234	0.6656	Sometimes
9	6	I think I can get an "A" in mathematics courses	2.218	0.6590	Sometimes
10	1	I feel confident enough to ask questions in mathematics lectures	2.198	0.6187	Sometimes
11	10	I feel I will be able to do well in mathematics courses	2.151	0.655	Sometimes
12	8	I feel confident when taking mathematics tests	1.984	0.6435	Sometimes
Confident Cronbach's Alpha (0.883)			2.371	0.37767	Always

Item 3 and item 4 in table (1) have the highest mean value of 3 and no deviations from the mean with an 'Always' attitude. In the second rank, item 7 with a mean of 2.4167

and a standard deviation of 0.60952 with 'Always' attitude. Item 8 has the lowest mean 1.9841 and a standard deviation of 0.64350 with 'Sometimes' attitude. In general, confident is of 'Always' attitude with a mean of 2.3714 and a standard deviation of 0.37764. Cronbach's alpha reliability coefficient (1951) is suggested as a measure of the surveys' internal consistency and it is one of the most widely used measures of reliability in the social and organizational sciences [1]. Confident Cronbach's Alpha for our study is 0.883 which is very good. the overall mode is that students are able to do their assignments and projects in mathematics if they are at home, feeling comfortable and have a time. But the confidence in the test period is low for many reasons we are going to discuss and suggest solutions.

Now, **Table 2** Displays mean, standard deviation and attitude for items of anxiety.

Rank	Item No.	Item	Mean	Standard Deviation	Attitude
1	1	I feel nervous when I prepare to the test	2.226	0.6502	Sometimes
2	4	I am afraid I will not get a good grades	2.167	0.6827	Sometimes
3	11	I am afraid I will not get an "A"	2.151	0.7036	Sometimes
4	12	I'm afraid to answer incorrectly in a class	2.000	0.6857	Sometimes
5	9	I'm afraid I cannot complete projects	1.984	0.6855	Sometimes
6	7	Working on projects bothers me	1.960	0.7350	Sometimes
7	8	I am afraid I do not know enough to be good in future	1.917	0.7231	Sometimes
8	10	I am afraid I will not be able to understand well	1.849	0.7036	Sometimes
9	3	I am afraid I cannot use mathematics in my work in future	1.833	0.7334	Sometimes
10	6	I feel nervous when I ask questions in class	1.754	0.6936	Sometimes
11	2	I feel nervous when I have to use mathematics outside university	1.472	0.6644	Never
12	5	I feel nervous when I listen to the lecturer	1.000	0.0000	Never
Anxiety Cronbach's Alpha (0.861)			1.860	0.4196	Sometimes

The first item " I feel nervous when I prepare to the test " has the highest mean of 2.2262 and a standard deviation of 0.650 with attitude of 'Sometimes'. Rank two goes to item 4 " I am afraid I will not get a good grades " with a mean of 2.1667 and a standard deviation of 0.6827 with attitude of 'Sometimes'. The lowest mean goes for item 5 I feel nervous when I listen to the lecturer " with a mean of 1.000 and no deviations from the average with attitude of 'never'. Generally, anxiety is of 'Sometimes' attitude with a mean of 1.8595 and a standard deviation 0.4196. Anxiety Cronbach's Alpha is 0.861. We notice that "nervous" and "afraid" are buzzwords during tests, however they feel comfortable to listen to or deal with their mathematics lecturers, this is a great indicator refers to good relationships between both sides.

Correlation analysis is illustrated in **Table 3** where Pearson's correlation coefficient is used.

Correlations		Confident	Anxiety
Confidence	Pearson Correlation	1.00	-0.742
	Sig. (2-tailed)		0.000
Anxiety	Pearson Correlation	-0.742	1.00
	Sig. (2-tailed)	0.000	

The type of correlation between confidence and anxiety is strongly negative. This is evaluated by Pearson's correlation coefficient which is the covariance of the two the variables (confidence and anxiety) divided by the product of their standard deviations [20].

Table 4 Displays mean and standard deviation for males and females

Group Statistics	Gender	N	Mean	Standard Deviation	Standard Error Mean
Confident	Male	30	2.43	0.392	0.0716
	Female	222	2.361	0.379	0.0252
Anxiety	Male	30	1.75	0.378	0.0691
	Female	222	1.874	0.42350	0.0284

Our robust findings appear that males have higher levels of self-confidence than females regarding mathematics tests. Males at every age tended to have higher levels of self-esteem and confidence than females [19].

Table 5 shows Independent Samples T tests

Variable	T	Degrees of Freedom	Sig. (2-tailed)	Mean Difference	Standard Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Confidence	0.828	250	0.408	0.0609	0.0735	-.0839	.2057
Anxiety	-1.526	250	0.128	-0.1243	0.0814	-.2846	.0361

We conclude that no significant differences between confident and anxiety can be attributed to gender.

Now, we conducted an analysis of variance in order to scout effects of class on study construct levels, all results are displayed in **table 6** where the mean and the standard deviation within constructs are according to class.

Variable	Category	Mean	Standard Deviation	N
Confidence	1st year	2.398	.3070	57
	2nd year	2.356	.3878	91
	3rd year	2.337	.4400	61
	4th year	2.573	.3041	16
	5th year	2.235	.3135	17
	6th year	2.583	.000	1
	7th year	2.458	.3854	10
Anxiety	1st year	1.784	.3421	57
	2nd year	1.856	.4411	90
	3rd year	1.893	.4527	61
	4th year	1.656	.3586	16
	5th year	2.132	.3785	17
	6th year	2.083	.0000	1
	7th year	1.958	.3854	10

Table 8 shows ANOVA for class where ANOVA tables used to analyse variance in statistics, detect differences in group means and divide an observed variability aggregate inside a data set into two sections: random factors and systematic factors where there is one dependent variable and one or more than one independent variables [8].

Variable	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig.
Confidence	1.217	6	0.203	1.438	.201
Anxiety	2.474	6	0.412	2.422	.027

From the above table there is a significant effect of class on anxiety $F=2.422$, $p\text{-value}=0.027 < \alpha=0.05$. Post-hoc comparisons using LSD test indicated that the mean for fifth year students and mean=2.1324 are significantly more than other years.

Figure 1 compare academic year and mean of anxiety (Part B).

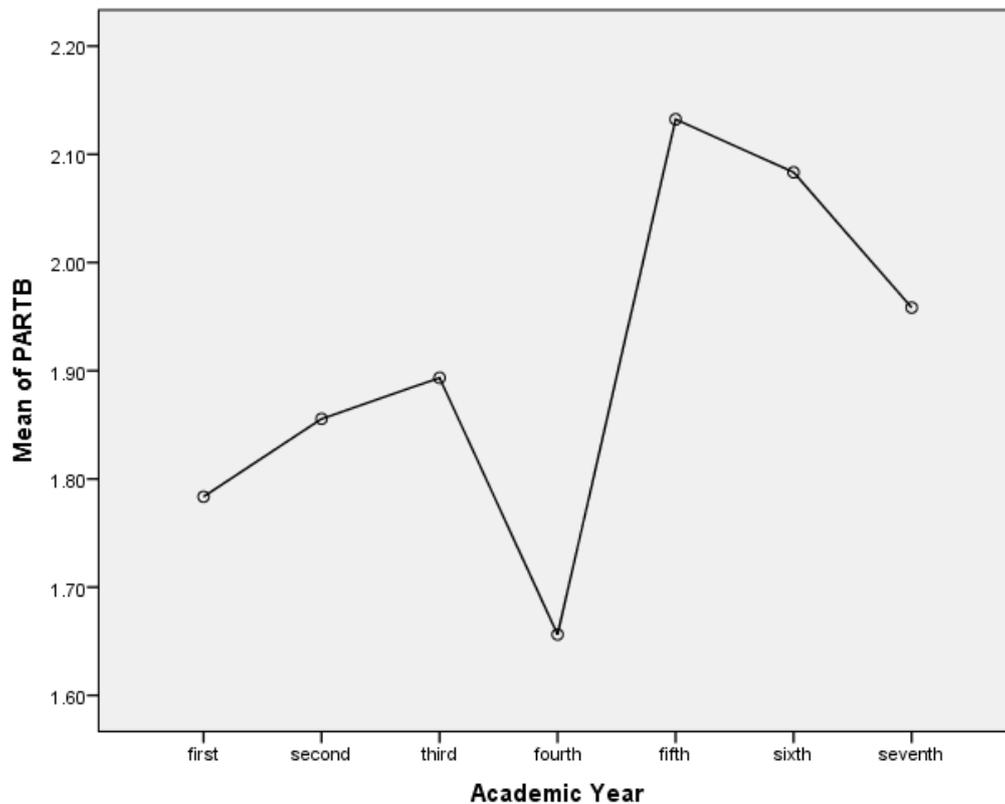


Figure 1

6. PHYSICS PART OF THE SURVEY

The results were compared according to demographic characteristics using an independent sample t-test, and one-way analysis of variance (ANOVA) was calculated. The Pearson correlation coefficient was also calculated between the questionnaire axes, in addition to calculating the reliability coefficient (Cronbach's Alpha) for the study, which is 0.875. Data analysis was performed using SPSS, version 22. The level of statistical significance was set at $p < 0.05$ (two-sided). While the level of statistical significance in calculating the correlation coefficient was set at $p < 0.01$ (two-sided).

Table 6 shows demographic characteristics of the study sample

Variable	Category	n	%
Gender	Male	128	44.0
	Female	163	56.0
Faculty	Engineering	87	29.9
	Pharmacy	158	54.3
	IT	35	12.0
	Arts and Science	11	3.8
	Cumulative average	60-67.9	9
	68-75.9	22	7.6
	76-83.9	98	33.7
	≥ 84	162	55.7

A total of 291 were recruited to the study, 56% of the total sample are females and the rest are males. Approximately 54.3% of students are from faculty of pharmacy, 29.9% from faculty of engineering and technology, 12% of students are from faculty of information technology and 3.8% are from faculty of arts and science. A proportion of 55.7% of the total sample represents students whose cumulative average are greater than or equal to 84%.

Now, table 7 shows each of the mean, standard deviation and attitude for items of confident.

Item No.	Item	Mean	Standard Deviation	Attitude
5	I do my best to be successful In physics problems solving	4.16	0.83	Agree
6	I make a lot of effort when physics problems cannot be solved	4.12	0.82	Agree
7	I confirm I can solve physics problems	4.04	0.84	Agree
8	I believe I can solve physics problems	3.99	0.87	Agree
1	I like physics problems solving	3.99	0.90	Agree
9	I spend lots of time when solving physics problems	3.71	1.00	Agree
14	I am afraid to be inaccurate in calculation	3.70	1.16	Agree
3	I like solving problems containing calculations	3.69	1.03	Agree
13	I feel bothered when I solve physics problems incorrectly	3.66	1.05	Agree
10	I frustrated if I cannot solve physics problems	3.66	1.05	Agree
4	I like solving physics problems from many sources	3.62	0.96	Agree
11	I feel stress when solving physics problems	3.30	1.08	Neutral
12	I forfeit my confidence when I cannot solve physics problems	2.85	1.26	Neutral
Confidence Cronbach's Alpha = 0.825		3.74	0.54	Agree

Item 5 has the highest mean value of 4.16 and standard deviation of 0.83 with Agree attitude. The second rank goes to item 11 where the mean is 4.12 and the standard deviation 0.82 with Agree attitude. Generally, anxiety is of Neutral attitude with mean of 2.99 and standard deviation 0.77.

Cronbach's Alpha of confidence is comparatively high and such value reflects the reliability of our measure that we use in this study.

Table 8 displays Pearson's correlation coefficients between the two criteria: Confidence and Anxiety as follows:

	Confidence	Anxiety
Confidence	1	0.33**
Anxiety	0.33**	1

The above table shows that the two criteria are weakly correlated with $r = 0.33$, $p = 0.000 < 0.01$.

Now, **table 9** gives the mean and standard deviation of the two criteria for both males and females.

Gender		N	Mean	Standard Deviation	Standard Error Mean
Confidence	Male	128	3.76	0.55	0.05
	Female	163	3.73	0.53	0.04
Anxiety	Male	128	3.04	0.76	0.07
	Female	163	2.94	0.78	0.06

Table 10 indicates independent samples T tests

Variable	t	Degrees of Freedom	Sig. (2-tailed)	Mean Difference	Standard Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Confidence	0.554	289	0.58	0.035	0.064	-0.089	0.16
Anxiety	1.0989	289	0.277	0.099	0.091	-0.08	0.279

Clearly, no significant differences attributed to gender are between confident and anxiety.

Our next table (**table 11**) indicates both of mean and standard deviation within constructs concerning faculty, where we analyzed variance to scout the impact of the specialization students study.

Variable	Category	Mean	SD	N
Confidence	Engineering	3.80	0.563	87
	Pharmacy	3.70	0.538	158
	IT	3.78	0.475	35
	Chemistry	3.87	0.499	11
Anxiety	Engineering	2.98	0.647	87
	Pharmacy	2.90	0.766	158
	IT	3.22	0.949	35
	Chemistry	3.51	0.879	11

What does ANOVA table tell us? The following table is numbered 12

Variable	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Confidence	0.636	3	0.212	0.733	0.533
Anxiety	6.225	3	2.075	3.574	0.014

From **table 12** we find that a significant effect of faculty on anxiety with a p-value=0.014 < $\alpha = 0.05$ and F=3.574. By LSD test, Post-hoc comparisons implies that the means of each of students of pharmacy and engineering which are 2.90 and 2.98 respectively significantly is less than the mean of students of information technology and arts and science which are 3.22 and 3.51 respectively.

For our study, the variance analysis gives the impact of the cumulative grade point average (GPA) on the study construct. Results are indicated in **table 13**.

Variable	Category	Mean	Standard Deviation	N
Confidence	60 - 67.9	3.97	0.506	9
	68 - 75.9	3.75	0.481	22
	76 - 83.9	3.81	0.497	98
	≥ 84	3.69	0.565	162
Anxiety	60 - 67.9	3.45	0.83	9
	68 - 75.9	3.23	0.768	22
	76 - 83.9	3.25	0.748	98
	≥ 84	2.77	0.719	162

Table 14 is the ANOVA table concerning Faculty

Variable	Sum of Squares	Degrees of Freedom	Mean Square	F	Sig.
Confident	1.326	3	0.44	1.54	0.204
Anxiety	17.206	3	5.74	10.58	0.000

The cumulative average has a significant effect on anxiety where $F=10.575$ and $p\text{-value} = 0.000 < \alpha=0.05$. Post-hoc comparisons using Least Significant Deference (LSD) test signalize that the mean of students whose cumulative average is greater than or equal to 84 is 2.77 significantly is less than the mean of students whose cumulative average 60-67.9 which is 3.45.

7. DISCUSSION

Those pretty results we have got indicate that no considerable problems faced by sample of students recruited in the survey. We can regard this as an achievement of efforts of mathematics and physics lecturers. Recently, lots of programs that help in realizing and understanding basics of mathematics and physics are available and widespread [2]. A good instructor either in school or university provides his students to the hidden pits in their knowledge by holistic learning. Moreover, they help students to mark any missing ideas throughout the course and saves time and effort by

learning better rather than relying on rote memorization. In order to create ideal personalities, we intensify the work on students' characters, attitudes, and conducts to be exemplary. To reduce fear from mathematics and physics tests, a good instructor gives students effective strategies for handling the tests. Knowing the test format helps students to select the best suited way of study for the test, multiple choice based tests are entirely different from writing essays.

A mind operates “fight or flight” response as soon as high levels of anxiety are experienced. A decline in performance in tests can be seen by students who have test's high levels of anxiety, such high levels make it hard to focus on tasks at hand. Indeed, if a student identifies the ways to control levels of anxiety, he can take over his test performance. Triggers that might contribute in high levels of students' anxiety can be managed by efforts of lecturers by recommending ways to improve study skills, giving strategies and engaging them in self-care strategies such as exercises, nutrition, mindfulness and implementing relaxation routines. Strategies aim to help students understand anxiety's nature to cope with forthcoming evaluations efficaciously. Training to relax is used alongside a student's visualizing himself taking test, this mental image process evokes feelings of the real scene. Actually, additional support must be given to those students who experience intense panic and fear about being unable to do the tests. Some students need to be separated from others to be able to complete the tests, some need an extra time or breaks during the test. Therefore, an individualized plan is needed in order to overcome students' difficulties in dealing with hard times. Doing “Ice Breaking Activity” helps in breaking ice between Lecturers and students, the ice breaking activity starts by dividing the students into groups and giving a name of the activity, explaining what they have to do and finally choosing a member to solve simple question. This may take 5-20 minutes [7]. Solving mathematics and physics problems is difficult as they require logic, intense and active thinking, doing well in tests is measured through practice and specific attention from Lecturers and students.

What are the key (advices) for preparing students to tests?

- Tests questions usually are similar to those that are tackled by the instructor, hence students have to try the textbook questions especially the questions that are assigned by him beside doing a variety of problems and ignoring cramming.
- Accessing to past tests and solving them carefully since they are giving students the best insight into the real challenges they might be facing and helping in overcoming test anxiety.
- Review means drawing maps containing main concepts, theories, assumptions, inclusions, axioms and facts. Such process needs a pencil and a crib sheet [5].
- Tricky Ideas need to be linked. Some ideas are misremembered and not easily be stuck in mind.
- Writing Heuristics which are simple algorithms or rules and practicing them,

making a chain of reasonable steps “brain dump” in proving a proposition or solving a problem ease dealing with tests questions.

- Trying to learn large sections the night before test makes a student uncomfortable and exhausted. Therefore, urging students to study every day enable them to avoid exhaustion. Moreover, sleeping well has a direct positive impact on each of memory and reflexes.
- Urging a student to show his work clearly and in order beside stimulating him to understanding all concepts, alertness, efficiency and finishing the task at time.
- Watching a student’s stress level and trying to calm him. Encouraging him to mediate daily at least 10 minutes twice.
- Speculating that a student’s anxiety indicates a failure caused by a deficit of affirmation self-esteem. Consequently, anxiety-evoking is diminished by implantation of favorable self-defining memories.
- Encouraging students to follow a specific schedule, eat lots of Omega three that is contained in fishes and walnut, drink adequate quantities of water.
- Achieving Cardiac Coherence-heart and brain harmony-via taking a mind off the usual issues by physical exercises.
- Noticing physical responses and identifying anxiety early and challenging negative thoughts and worries. Practice students to focus on current tasks rather than getting tangled in anxiety [3].
- learning with understanding, building knowledge from experience beside prior knowledge.

Now, for physics survey, we noticed that feeling anxiety when dealing with physics problems and tests has an adverse effect, this may prevent the healthy development of students and harm their future prospects [21]. Physics anxiety includes worry, emotionality, cognitive interference, a diffuse apprehension and a lack of self-confidence [12] discourages students; it may force them to neglect required preparations for their tests and be overly self-critical [9]. Considerable amount of stress, pressure and broadly encompassing lots of feelings [15] are suffered by each of good, intermediate and weak students who aim to score very well on physics tests is heightened when referring to external sources such as parents, peers, lecturers and many other sources where “Physics is hard” is a social and cultural belief re-enforced by the media [14], the fear of failure [10], inability to remember or think, reading difficulty, comprehending sentences [11] “in common parlance self-esteem is the extent to which one prizes, values, approves or likes oneself” [13]. Panic attacks students feel before their tests are often worse than being in the actual test. If a student has elder brothers or sisters who already have done well, then he feels that he has to match up to their levels and standards.

Finding ways to allay anxiety and fear of physics tests becomes a necessity especially in our world that gradually more relies on progress in lots of fields and scientific

thought. Expanding technologies, either academically or globally, the world has an elevation of needs for scientists to maintain current standards of living. However, numbers of scientists have not increased, Actually, the core causes for this might be anxiety and fear of physics and scientific subjects generally [16].

There are lots of good tips that easiest dealing with physics tests positively, reduce anxiety and raise student's self-confidence:

- Nobody can be idealistic all the time, everybody tries do his or her best [24].
- Before tests, make a literal revision timetable and try to be accurate in applying its items and keep separable periods of time for relaxation.
- Brief notes are good to digest all difficult ideas
- Revision mustn't be left to the last minute.
- Partition subjects you study to headings and subheadings, highlighting pens work in this task. Keywords, sticky notes, cards and briefs are helpful [25].
- In early morning, concentration seems to be in its high levels especially after sleeping adequately.
- Solving problems from past test papers and explaining tricky solutions to partners or even student himself helps in checking whether ideas are absorbed.
- Feeling hungry, tired, hungry and boring minify understanding, taking breaks refreshes brain and having a balanced diet will brisk the brain and increase the energy.
- Short burst of studying and doing revision are extremely better than spending hours and hours staring at the same page.
- Asking for help from lecturers or partners minimizes anxiety, stress and save efforts and time.
- In most cases, student has to maintain coolness, taking a good and healthy breakfast.
- The night before test, preparing everything is a necessity, like getting extra pens, pencils, rulers, rubbers, empty papers, water, tissues, wet wipes and identification cards. This helps in reducing tests stress and pressure.
- Going to the toilet before the test starts keeps student comfortable.
- Reading tests instructions carefully to be accurate to avoid falling in unintentionally errors.
- Talking to partners before the test may disturb or distract the mind, as a consequence finding a quiet corner helps student to be more concentrated.
- During the test, each question has a specific time to be solved, hence a student has to partition the whole time over each question.
- and remain 10-15 minutes for revision to ensure that all questions are solved.

- Doing simple exercises, walking in a fresh air, cycling, aerobics and swimming help in keeping healthy, refreshing the mind and getting rid of anxiety.
- Being late in the test day is panicky, so on the test's day getting up early enables the student to prepare everything without moving with urgent haste.
- A slow down deep breathing helps student to calm down.
- Cheating in tests has humble results, self-dependence is the best choice to build up future.

8. CONCLUSION

According to our exploratory surveys, relatively large proportion of students were anxious about the solving mathematics and physics tests questions and capability of getting high grades, this cause a panic when thinking about tests. On the other hand, most of them do not have difficulties in asking questions during lecture either lectures are online or in the campus, in addition, they feel comfortable when dealing with the academic team, most of them do not report uneasiness while dealing to lecturers but anxiety comes from not well preparation to tests and performing badly. Frankly speaking, classroom anxiety was moderate.

ACKNOWLEDGEMENT

The researchers would like to thank all students who took part in the surveys.

AUTHORS CONTRIBUTION

Design of the work: All authors.

Data collection: Third and Fourth Authors.

Data analysis: Fourth Author.

Data interpretation: First and second Authors.

Drafting the article: First Author.

Critical revision of the article: All Authors.

Final approval of the version to be published: All Authors.

REFERENCES

- [1] Bonett D., Wright T., Cronbach's alpha reliability: Interval estimation hypothesis testing and sample size planning, *Journal of Organizational Behavior*, 2014, 36(1), pp. 3-15.
- [2] Almuher E., Al-labadi M., Shatarah A., Sasa T., Bashir R., Khan N., Role of

- Mathematics Instructors in Enhancing Student's Self-Confidence in distance learning during Coronavirus disease, *Indian Journal of Forensic Medicine & Toxicology*, to be published.
- [3] Grové C., How to overcome exam anxiety, *The Conversation*, 2016, pp. 1-4. Available from: <https://theconversation.com/how-to-overcome-test-anxiety-67445>
- [4] Russe R., Sipich J., Cue-controlled relaxation in the treatment of test anxiety, *Journal of Behavior Therapy and Experimental Psychiatry*, 1973, 4(1), pp. 47-49.
- [5] Nourkova V., Vasilenko D., On the advantage of autobiographical memory pliability: implantation of positive self-defining memories reduces trait anxiety, *Memory*, 2018, 26(7), pp. 869-881.
- [6] Estalkhbijari Z., Khodareza M., The Effects of Warm-Up Tasks on the Iranian EFL Students' Writing Ability, *International Education Studies*, 5(2), 2012.
- [7] Farwati D, Rahmah M, Sutisna E., The Application of Ice Breaking Activities in Teaching English to Junior High School Students, *Journal of English Language Teaching and Linguistics Studies*, 2019, 1(1), pp. 1-10.
- [8] Sawyer S., Analysis of Variance: The Fundamental Concepts, *The Journal of manual & manipulative therapy*, 2009, 17(2), pp. 27-35.
- [9] Donaldson S. I., Gooler L.E., Scriven M., Strategies for Managing Evaluation Anxiety: Toward a Psychology of Program Evaluation, *American Journal of Evaluation*, 2002, 23(3), pp. 261–273.
- [10] Putwain D.W., Situated and Contextual Features of Test Anxiety in UK Adolescent Students, *School Psychology International*, 2009, 30(1), pp. 56-74.
- [11] Nicaise M., Treating anxiety: A review of three approaches, *Lecturers education and practice*, 1975, 11, pp. 65 – 81.
- [12] Zeidner M., *Test Anxiety - The state of the art*. New York, US: Plenum Press.
- [13] Blascovich J., Tomaka J., Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman. (Eds), *Measures of personality and social psychological attitudes*. Measures of social psychological attitudes, 1991, 1, pp. 115-160.
- [14] Tobias S., Tomizuka C.T., *Breaking the science barrier: how to explore and understand the sciences*, New York, The College Board, 1992.
- [15] Usera J., *On the assessment of science anxiety levels among adult learners in community college and university science courses (Doctoral dissertation)*, 1984. Available from <http://www.worldcat.org/title/on-the-assessment-of-science-anxiety-levels-among-adultlearners-in-community-college-and-university-science-courses/oclc/13068789>
- [16] Haider A., Al-Salman S., *COVID-19'S Impact on The Higher Education*

- System in *Jornal: Advantages, Challenges, and Suggestions, Humanities & Social Sciences Reviews*, 2020, 8(4), pp. 1418-1428. Available from: <https://giapjournals.com/hssr/article/view/hssr.2020.84131>
- [17] Johnson., Andrew P., *Essential Learning Theories: Applications to Authentic Teaching Situations*. Lanham, MD, Rowman & Littlefield. 2019.
- [18] Mallow J., A science anxiety program, *American Journal of Physics*, 1978, 46(8), pp. 862-873. Available from: [A science anxiety program: American Journal of Physics: Vol 46, No 8 \(scitation.org\)](https://scitation.org)
- [19] Bleidorn W., Age and Gender Differences in Self-Esteem — A Cross-Cultural Window, *Journal of Personality and Social Psychology*, 2016, 111(3), pp. 1-10. Available from: <https://content.apa.org/record/2015-57061-001>
- [20] Schober P., Boer C, *Correlation Coefficients: Appropriate Use and Interpretation*, *Anesthesia & Analgesia*, 2018, 126(5), pp. 1763-1768.
- [21] Taibu R., Ferrari-Bridgers F., *Physics Language Anxiety among Students in Introductory Physics Course*, *EURASIA Journal of Mathematics, Science and Technology Education*, 2020, 16(4), pp. 1-12. Available from: <https://www.ejmste.com/article/physics-language-anxiety-among-students-in-introductory-physics-course-7792>
- [22] Upoalkpajor J.-L. N., Upoalkpajor C. B., *The Impact of COVID-19 on Education in Ghana*, *Asian Journal of Education Social Studies*, 2020, 9(1), pp. 23-33. Available from: <https://doi.org/10.9734/ajess/2020/v9i130238>
- [23] Selim H., Critical success factors for e-learning acceptance: Confirmatory factor Models, *Computers Education*, 2007, 49(2), pp. 396-413. Available from: <https://doi.org/10.1016/j.compedu.2005.09.004>
- [24] Alahmad W., Sasa T., Bahtiti N., Khuzai R., Alahmad W., Alayed S, *Manage Awareness Attitude Anxiety experience and E-learning during COVID-19 pandemic evidence from ASU university*, *Indian Journal of Forensic Medicine & Toxicology*, to be published.
- [25] Sahin M., Caliskan S., Dilek U., *Development and Validation of the Physics Anxiety Rating Scale*, *International Journal of Environmental & Science Education*, 2015, 10(2), pp. 183-200.

