Effectiveness of Guided Imagery: A Technique in Behavioral Relaxation of Selected Secondary Students

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Abstract

Aim: The present study aimed to find out the effectiveness of guided imagery as a technique in behavioral relaxation of the selected secondary students in Tanauan City Integrated High School, Tanauan City, Batangas. In investigating how anxiety affects learning, one crucial realization is to understand that each individual has a unique way of adapting and learning method. In such the experiment revealed that the guided imagery impacted the relaxation level of the participants after the exposure. Furthermore, it aimed to create an intervention for the guidance program that addresses relaxation and mitigating anxiety among learners.

Methodology: The study was experimental in nature utilizing the Interrupted Time – Series Quasi-experimental research design. In the experiment, controlled and experimental groups were needed. The experiment lasted for 3 weeks due to the gap exposure of the of the participants in the experimental group to the guided imagery sessions. The experimental process of the study had taken consideration on the environment of the relaxation sessions. The participants of this research were the students from two heterogeneously grouped Science Technology, Engineering classes from Grade 10 Biyo and Quisumbing having 30 students each section. Purposive Sampling Technique was utilized. The researcher intentionally selected the participants.

Results: Findings revealed that the participants in controlled and experimental group had a difference in their relaxation level after the exposure of the experimental group to the guided imagery sessions. Participants in the experimental group improved their relaxation level after the exposure to the guided imagery session. On the other hand, there was no changes in the relaxation level of the controlled group.

Conclusion: According to the results, there is a substantial difference between the two groups' levels of behavioral relaxation. It means that adopting guided imagery as a method for behavioral relaxation has a high effectiveness in increasing the participants' level of relaxation.

Keywords: Guided Imagery, Behavioral Relaxation level, Perceived stress

INTRODUCTION

Over the years, as society underwent abrupt changes, so did the way that educational institutions were built up to respond to those changes. Anxiety and depression build up within certain people including the students. The sudden shift of learning modalities greatly influenced on how we perceived life. Especially for students who have only recently adjusted to the "New Normal" of distant learning. They must now adjust to face-to-face instruction for the school year 2022-2023.

The main goal of this study was to test the effectiveness of Guided Imagery Technique towards the behavioral relaxation of selected secondary students. In investigating how anxiety affects learning, one crucial realization is to understand that each individual has a unique way of adapting and learning method. Thus, the level of each individual's anxiety differs from one another (Alpert and Haber, 1960). The Guided Imagery can quickly calm your body and simultaneously relax your mind. Practice is enjoyable, and learning is not extremely challenging or daunting. It can also be a good tactic for keeping your resilience to stress through tiring times. It can help a person

de-stress in minutes. You can manage stress and release physical tension in your body fast and simply with the aid of guided imagery, a practical and easy relaxation technique. The following are the three major goals of using this technique: relieving stress and relaxing, enhancing performance or behavior through active visualization or directed imagery, and evoking subconscious words and images through receptive imagery. The efficacy of guided imagery, a flexible intervention, has been demonstrated by a substantial body of research conducted in counselling and related domains over many years. Under the independent variable are the three categories of guided imagery therapy such as: Feeling State Imagery, End State Imagery, and Physiological Imagery these categories are adapted to Naperstek, 1994. On the other hand, the dependent variable comprised of the Behavioral Relaxation Scale as the Pre-test and Post-test. The experiment focused on the two groups of learners, both group comprising of 30 individuals which are the control group and the experimental group. In identifying the existence of stress and anxiety to the participants, DASS21 or the Depression, Anxiety, Stress Scale 21 was utilized. In providing an activity that provided essential changes in the level of the students' behavioral relaxation encompassed the learning development, social interactions, and personality development of the participants. The study created a different perspective in tackling stress and anxiety to the students.

Research Questions

The focus of the study was to test the effectiveness of Guided Imagery as interventions towards the behavioral relaxation of the selected secondary students through series of guided imagery sessions. Specifically, this aimed to answer the following questions:

1. What is the perceived Pretest of BRS of the two groups during the first, second and third session?
2. Is there a significant difference between the Pretest BRS of the two groups during the first, second and third session?
3. What is the perceived Post test of BRS of the controlled group during the first, second and third session of the experiment?
4. Is there a significant difference between the post test of the two groups after the first, second and third session?
5. Is there a significant difference between the pretests of experimental group and controlled group during the 3 sessions?
6. Is there a significant difference between the series post-tests of experimental group and controlled group after the 3 sessions?
7. Is there a significant difference between the pretest and post-test of the two groups?

METHODS

Research Design

This study utilized Interrupted Time – Series Quasi-experimental research design in describing the behavioral relaxation of Grade 10 students and how it is related to guided imagery session administered to them. In the experiment, before each intervention, pretests were administered in the two groups simultaneously, then post-tests were administered to the two groups after the intervention given to the experimental group. The comparison group records the results that would have occurred if the program or policy had not been put into place. (i.e., the counterfactual). The key difference between an experimental and quasi-experimental design is that the latter lacks random assignment (White & Sabarwal, 2014).

Population and Sampling

The participants of this research were the students from two heterogeneously grouped classes from Grade 10 Biyo and Quisumbing having 30 students each section in Tanauan City Integrated High School, Tanauan City, Batangas during the school year 2022 – 2023.Grade 10 Biyo served as the Controlled Group while Grade 10 Quisumbing was the experimental group. Moreover, the researchers used the purposive sampling technique. Purposeful sampling means that to learn or understand the essential phenomenon, a researcher selects individuals and sites intentionally. In addition, this study used homogeneous sampling. Creswell (2012).

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Instrument

The researchers had undertaken a review of the literature to determine which standardized instruments are most useful for the research's intended outcome. The DASS21 (Depression, Anxiety, Stress-21) questionnaire, created by Lovibond and Lovibond, was be used by the researcher to measure the main symptoms of depression, anxiety, and stress. A script that focused primarily on the four main types of guided imagery therapy will be written by the researcher. Next, a 5- to 10-minute pre-recorded audio of the administration of the scripts is played to continue the script delivery during each group's counseling session. A licensed psychologist and a registered guidance counselor validated the scripts. Level of relaxation was measured using the Behavioral Relaxation Scale (BRS) that was developed by Poppen and colleagues (Poppen, 1988). The BRS has been found to have high construct validity with significant correlations between changes in BRS scoring and changes in physiological measures such as heart rate and respiration (Murry & Ray, 2001).

Data Collection

In the study, the researchers sought the approval of the Principal of Tanauan City Integrated High School to use Grade 10 STE students. Upon approval, the researcher ensured that proper measurements were made before the exposure of the participants. Informed consent was signed a week before the first session. Participants were also conditioned before the exposure. The researcher conducted physiological assessment to the participants with the help of the school nurse. Participants read the informed consent forms and were given the consents before the start of the study. Next, participants completed the baseline measures on anxiety. Baseline measurements were the assessment of the participant's Pulse rate, Oxygen Level, and Blood pressure. Afterwards, the researcher administered a questionnaire that pertains to the perceived stress level of the student-participants using DASS-21 to both control and experimental group. Moreover, the two groups of participants took the pre-test of Behavioral Relaxation Scale, to identify the level of relaxation of the two groups. These are the intervention procedures before the exposure of the experimental group to the relaxation technique particularly the guided imagery. After the administration of the pre-test, for both experimental group and controlled group, the researcher proceeded to the guided imagery sessions for the experimental group (Grade 10 Quisumbing) using the three guided imageries such as Feeling State Imagery; End State Imagery and Physiological Imagery to the experimental group. Each week the researcher administered the guided imagery sessions for the experimental group. Whereas both controlled and experimental group took BRS as pre-test and post-test to determine the effectiveness of guided imagery as a relaxation technique for students. There was a one-week interval for each session to ensure and avoid exhaustion to the participants. During the first week of the experiment the researchers administered the Feeling State Imagery to the experimental group. On the second week of the experiment, the researcher administered the Physiological Imagery to the participants in the experimental group. Then on the third and final week, the researcher administered the End State Imagery to the experimental group. And for each session the two groups took behavioral relaxation scale as their post-test. during the experiment, while the experimental group was exposed to the treatment, the Grade 10 Biyo or the controlled group was exposed nor experienced any relaxation treatment thus, the controlled group continued with class their lessons. Student-participants under the experimental group experienced the 3 different categories of guided imagery, which are pre-recorded audio that lasts for 5 to 10 minutes depending on the validated script and the delivery of each script.

In determining the relaxation level, BRS survey instrument, Poppen 1998, was utilized on the participants in both the control and experimental groups to gauge their level of relaxation and physiological response after the experimental group has completed the relaxation sessions. After all instruments have been administered, the data collection started. After the data being gathered, the results were treated statistically for interpretation.

Data Analysis

The statistical tools used to answer the research questions are as follow:

To describe the comparability of the two groups on DASS21, T-test for independent means was used.

T-test for independence was utilized for the pre-test of BRS of the 2 groups.

T-test for independent means was utilized for the post-test of BRS of the 2 groups.

The experimental group's Pre-test and Post-test utilized the T-test for dependent means.

T-test for dependent means used for the Pre-test and Post-test of the control group.

To demonstrate the first hypothesis set in the study, whether there is no significant difference between the pre-test of the two groups T-test was utilized.

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According to the second research hypothesis, a T-test was used to determine whether there is no significant difference between the two groups after the post-test.

A T-test was used to determine whether there is no significant difference between the pre-test and post-test of the two groups in order to support the third of the study's three hypotheses.

Ethical Consideration

Before conducting the survey, a formal letter of consent was sent to the parents or legal guardians of the students to secure their voluntary participation. The parents or legal guardians were informed that the students, as participants, can withdraw from the study at any time without penalty. Consent forms given to them clearly stated the research objectives, data collection methods, and activities which were also articulated to all the respondents. To ensure the safety of the participants, provisions are made for monitoring the data collected. The researcher religiously addresses the participants' rights, interests, and privacy concerns.

RESULTS and DISCUSSION

This chapter primarily deals with research problems. To give an in-depth analysis and interpretation, the gathered data are arranged thematically and sequentially, resembling the presentation of the specific problems posed at the beginning of the study.

Table 1. Profile of the participants as to Sex

Sex	Control		Experimental	
	frequency	percentage	frequency	percentage
Male	15	50.00	15	50.00
Female	15	50.00	15	50.00
Total	30	100.00	30	100.00

Table 1 illustrates the data gathered in relation to the profile of the participants as to their sex. It could be gleaned from the table that there is an equal number of male and female participants. There were 15 male participants which composed the 50% of the total percentage of respondents and the remaining 50% was represented by the 15 female respondents of the study. These participants were carefully selected as to the sampling technique utilized. Nonetheless, it signifies that there is an equal number of male and female respondents utilized for the present study.

Table 2. Comparison of DASS21 Between the Control and Experimental Groups

variables	control			experimental		
	mean	s.d.	interpretation	mean	s.d.	interpretation
Stress	7.00	4.06	Normal	7.93	4.02	Normal
Anxiety	6.60	3.61	Normal	8.60	5.49	Mild
Depression	6.47	4.32	Normal	6.53	3.75	Normal

This would imply that in the experimental group greater anxiety level was observed compared to the controlled group. It can be gleaned in second table (Table 2) that participants belonging to the control group has a normal level or do not experience stress, anxiety and depression as revealed by the utilization of DASS 21 with a mean of 7.00, 6.60 and 6.47 respectively. Similarly, participants on the experimental group were evaluated in terms of stress and depression as normal with corresponding means of 7.93 and 6.53. However, it was observed that participants from experimental group have a mild anxiety based on the computed mean as revealed in the utilization of DASS21. Additionally, an observable high standard deviation (5.49) from the anxiety component was revealed. This value shows that there is a great variance among the responses of the students. On the study of Dalbirkaur (2010), he compared the stress level of those who experienced stress disorders and psychotic features. It was shown that younger adults including teenagers usually experiences stress and anxiety. This is prevalent to students who has a turbulent family background and pressures. However, supportive environment prevents the complicated effects of such emotional problems and stresses. Meanwhile Leechout (2015) supported the findings of the study where, teenagers and young adults are more prone to experiencing stressful life events and psychological distress. Social

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interactions and peer support I do not exhibit protective effect but increases the opportunity in finding assistance and emotional support.

Table 3. Pretest BRS Scores of Experimental and Controlled Group During the First Session

Indicators	control			experimental		
	mean	s.d.	interpretation	mean	s.d.	interpretation
I1	2.33	0.48	Unrelaxed	2.27	0.45	Unrelaxed
I2	2.30	0.47	Unrelaxed	2.30	0.47	Unrelaxed
I3	2.40	0.50	Unrelaxed	2.43	0.68	Unrelaxed
I4	2.47	0.51	Unrelaxed	2.50	0.68	Relaxed
I5	2.33	0.48	Unrelaxed	2.37	0.61	Unrelaxed
I6	2.40	0.50	Unrelaxed	2.47	0.57	Unrelaxed
I7	2.37	0.49	Unrelaxed	2.27	0.58	Unrelaxed
I8	2.33	0.48	Unrelaxed	2.57	0.57	Relaxed
I9	2.13	0.35	Unrelaxed	2.30	0.53	Unrelaxed
I10	2.40	0.50	Unrelaxed	2.33	0.61	Unrelaxed
Over-all	2.35	0.48	Unrelaxed	2.38	0.58	Unrelaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

Table 3 depicts data as to the result on the pretest of the Behavioral Relaxation Scale (BRS) conducted by the researcher. It could be observed that the highest mean computed for the control group falls under indicator 4 My shoulders rounded and relaxed against the chair with tops in straight line which obtained 2.47 weighted mean and was interpreted as unrelaxed. Consequently, indicator 9 My breathing is slow and even obtained the lowest mean of 2.13 under the control group. This was interpreted as unrelaxed. Meanwhile, indicator 4 My shoulders rounded and relaxed against the chair with tops in straight line signifies the highest mean obtained under the experimental group. This gained a 2.50 weighted mean, verbally interpreted as relaxed. Indicator 1 My hands are rested in my lap and indicator 7 My throat is smooth and quiet, on the other hand, both obtained the lowest mean of 2.27 for the control group thus, verbally interpreted as unrelaxed. In general, the data obtained on the pretest for the BRS Scores for the first session of the control and experimental group were 2.35 and 2.38 respectively.

These could both be interpreted as unrelaxed. With no exposure to treatment for both group of participants, no results are still expected. This was proven as Weigensberg et al. (2009) claimed that after a four-week interactive guided imagery protocol the participants experienced reduced physiological stress. Hence, if no treatment was exposed, no reduced in physiological stress could be assessed.

Table 4. Test of Difference between the Pretest Results of Controlled and Experimental Group in the First Session

Variables	Control		Experimental		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
BRS	2.35	0.48	2.38	0.58	0.341	59	0.062

The result of the pretest of the respondents during the first session reveals that there was no significant difference between the two groups in terms of behavioral relaxation since the computed p-value (0.062) 2-tailed is greater than the alpha level of 0.05. This means that prior to the first session the participants are of similar condition specifically on their behavioral relaxation.

Participants' exposure to treatment like guided imagery often leads to a positive and beneficial effect as revealed by the works of Melville et al. (2012). The study also exhibited that it was important to determine the current status of physiological and psychological aspects of participants as it is crucial in establishing the effect of treatments.

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Table 5. Posttest BRS Scores of The Experimental Group After First Session

Indicators	mean	s.d.	interpretation
I1	3.10	0.55	Relaxed
I2	3.07	0.64	Relaxed
I3	3.00	0.64	Relaxed
I4	2.93	0.58	Relaxed
I5	2.90	0.61	Relaxed
I6	2.87	0.57	Relaxed
I7	2.90	0.61	Relaxed
I8	2.87	0.63	Relaxed
I9	2.93	0.58	Relaxed
I10	2.93	0.74	Relaxed
Over-all	2.95	0.61	Relaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

As the participants in the experimental group listened in the guided imagery session, the participants are showing great focus and attention to the activity. This behavior was evident in the set of learners with great level of learning performance in school. Their discipline reflects their personality as honor students.

Presented in Table 5 are the posttest BRS Scores of the experimental group after the first session of the guided imagery. Notably, indicator 1 *My hands are rested in my lap* obtained the highest mean of 3.10 which could be interpreted as *relaxed.* However, both indicators 6 *My mouth and teeth parted and lips slightly parted in the center* and indicator 8 *I keep quiet and make no noise* garnered the lowest mean of 2.87, verbally interpreted as *relaxed*. With the mean scores ranging from 2.87 to 3.10 among all the indicators, the overall mean achieved 2.95 mean and .061 standard deviation. The results then imply that the respondents are *relaxed* after the first session of the guided imagery. Bigham, McDannel, Luciano, and Salgado-Lopez (2014) supported these findings as they revealed from their study that in a brief guided imagery exercise with a sample of university students, one session significantly reduced participants' perceived stress. This then implies that the exposure of the students on guided imagery exercises would reduce their stress level.

Table 6. Posttest BRS Scores of Controlled Group After First Session

Indicators	mean	s.d.	interpretation
I1	1.97	0.41	Unrelaxed
I2	1.97	0.61	Unrelaxed
I3	1.90	0.66	Unrelaxed
I4	2.17	0.59	Unrelaxed
I5	2.13	0.43	Unrelaxed
I6	2.17	0.53	Unrelaxed
I7	2.20	0.55	Unrelaxed
I8	2.20	0.48	Unrelaxed
I9	1.93	0.45	Unrelaxed
I10	1.90	0.48	Unrelaxed
Over-all	2.05	0.53	Unrelaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

Table 6 presents the data gathered based on the posttest results of the BRS for the controlled group on their first session of the experiment. With the 10 indicators stated, an overall mean was computed for analysis and interpretation. This implies an *unrelaxed* posttest result of the BRS for the controlled group as it obtained an overall

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mean of 2.05. A significant gap of results was noted for the pretest and posttest of the controlled and experimental group whereas it could be noted that after the first session of the guided imagery exercises, the experimental group exhibits a positive change while the control group still elicits the same level of relaxation behavior. This was also supported by the study of Bigham, McDannel, Luciano and Salgado-Lopez (2014) where they suggested that a longer-term guided imagery protocol may help individuals learn to relax themselves more easily over time. Since the control group does not experience guided imagery exercise, the participants are perceived to be less relaxed.

Indicators 3 *My body, chest, and hips are straight with no movement* and indicator 10 *My eyes and eyelids are closed and smooth* both gained 1.90 mean and the lowest posttest result of the BRS of the controlled group. Nonetheless, indicators 7 and 8 achieved 2.20 highest mean and could be interpreted as *unrelaxed*.

Table 7. Test of Difference Between the Posttest Results of the Two Groups After the First Session

Variables	Control		Experimental		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Posttest	2.05	0.53	2.95	0.61	3.327	59	0.032

There is a significant difference between the two groups in terms of Behavioral Relaxation after the first session since the computed p-value (2-tailed) 0.032 is lower than the alpha level of 0.05. Additionally, computed mean for experimental group is higher as compared to the control group who is not exposed to the intervention/treatment. The result is in line with the work of Melville (2012), where he assessed the potential of guided imagery in increasing mindfulness and activeness in which he saw a favorable result on the group exposed to the treatment. Further, the use of guide imagery in addressing stress is in comparable with doing yoga. On the cohort study of McCaffrey and Liehr (2016), guided imagery can be utilized in stress management and minimizing its associated symptoms. A randomized trial of Lottrup L., Grahn and Stigsdotter (2013) further strengthen the result of this study where they saw a great improvement on self-efficacy, sleep patterns and quality on the participants on using guided imagery in minimizing stress and associated factors.

Table 8.
Pretest BRS Scores of Experimental and Controlled Group During the Second Session

Indicators	control			Experimental		
	mean	s.d.	interpretation	mean	s.d.	interpretation
I1	2.33	0.48	Unrelaxed	2.47	0.51	Unrelaxed
I2	2.40	0.56	Unrelaxed	2.43	0.50	Unrelaxed
I3	2.17	0.53	Unrelaxed	2.67	0.48	Relaxed
I4	2.40	0.50	Unrelaxed	2.67	0.48	Relaxed
I5	2.23	0.50	Unrelaxed	2.50	0.51	Relaxed
I6	2.27	0.45	Unrelaxed	2.53	0.51	Relaxed
I7	2.47	0.51	Unrelaxed	2.47	0.51	Unrelaxed
I8	2.20	0.48	Unrelaxed	2.40	0.50	Unrelaxed
I9	2.37	0.49	Unrelaxed	2.37	0.49	Unrelaxed
I10	2.37	0.49	Unrelaxed	2.37	0.49	Unrelaxed
Over-all	2.32	0.50	Unrelaxed	2.49	0.50	Unrelaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

Compared data obtained on the BRS pretest results of both controlled and experimental groups during the second session were presented in Table 8. It could be noticed that an overall mean of 2.32 was obtained by the controlled group while an overall mean of 2.49 was gathered for the experimental group. Both were interpreted as *unrelaxed*.

It could be noted on the controlled group data that the highest mean obtained falls on indicator 7 *My throat is smooth and quiet* which was interpreted *unrelaxed*. Hence, the lowest mean obtained was 2.17 for indicator 3 *My body, chest, and hips are straight with no movement* and was also interpreted as *unrelaxed*.

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More so, data obtained on the pretest of the experimental group presents the highest mean of 2.67 and interpreted as *relaxed*. This result was both elicited on indicators 3 *My body, chest, and hips are straight with no movement* and indicator 4 My shoulders rounded and relaxed against the chair with tops in straight line. Nonetheless, indicator 9 *My breathing is slow and even* and indicator 10 *My eyes and eyelid are closed and smooth* depict the lowest mean of 2.37 and interpreted as *unrelaxed*.

With the previous exposure of the participants to treatment, a relative change on the relaxation was observed. However, Varvogli and Darviri (2011) stated that a person can relax by learning to consciously activate the relaxation response by spending 10-20 minutes each day repeating a word, sound, prayer, thought, phrase, or muscle movement and concentrating on the activity. These activities can distract a person on their stressful thought and can activate the relaxation response. Hence, with the conduct of this study, an interval and time duration may be a constraint on the direct effect of the treatment as consistent repetition of the guided imagery must be exhibited.

Table 9. Test of Difference between the Pretest Results of Controlled and Experimental Group in the Second Session

Variables	Control		Experimental		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
BRS	2.32	0.50	2.49	0.50	5.778	59	0.000

There is a significant difference between the two groups in terms of behavioral relaxation during the second session which was revealed by the computed p-value (2-tailed) of 0.000 and was lower than the alpha level of 0.05. Further, there participants on the experimental group (2.49) obtained a higher mean as compared to the control group (2.32) while both groups garnered similar standard deviation of 0.50. After the first exposure, significant difference was observed between the two groups in terms of behavioral relaxation, this may due to the lingering effect of the first exposure. Froeschle and Crews (2010) and Roeser (2013) had a consensus on the immediate effect of guided imagery on creating a positive effect on participants. They reiterated that as part of behavioral relaxation, observable reduction on stress was monitored to the participants as revealed on the physiological parameters such as heart rate and sweating.

Table 10. Posttest BRS Scores of the Experimental Group After Second Session

Indicators	mean	s.d.	interpretation
I1	3.10	0.40	Relaxed
I2	3.20	0.48	Relaxed
I3	3.13	0.35	Relaxed
I4	3.13	0.35	Relaxed
I5	3.07	0.52	Relaxed
I6	3.27	0.45	Relaxed
I7	3.13	0.68	Relaxed
I8	3.10	0.55	Relaxed
I9	3.10	0.48	Relaxed
I10	3.27	0.52	Relaxed
Over-all	3.15	0.48	Relaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

Presented in Table 10 are the data on the posttest BRS scores obtained by the experimental group after the second session. It could be observed from the table that the indicator 5 My head is resting back and facing straight forward illustrates the lowest mean of 3.07 thus, still interpreted as *relaxed*.

It could also be noted that indicator *6 My mouth and teeth parted and lips slightly parted in the center* and indicator 10 *My eyes and eyelids are closed and smooth* imply the highest mean of 3.27 which was interpreted as *relaxed*. Similarly, the overall mean of 3.15 elicits a *relaxed* behavior of the respondents which was exhibited after the second session.

This was proven by the study of Hadjibalassi et al. (2017) where they claimed that physiological imagery exposure has favorable effects with regards to decrease of pain and anxiety. Their evidence also suggests that

improvements in sleep quality, patient satisfaction and cost of care were exhibited after treatment. Thus, for the present study, physiological manifestations were all noted as relaxed.

Table 11. Posttest BRS Scores of the Controlled Group After Second Session

Indicators	Mean	s.d.	interpretation
I1	2.47	0.51	Unrelaxed
I2	2.53	0.51	Relaxed
I3	2.33	0.48	Unrelaxed
I4	2.47	0.51	Unrelaxed
I5	2.47	0.57	Unrelaxed
I6	2.43	0.50	Unrelaxed
I7	2.47	0.51	Unrelaxed
I8	2.37	0.49	Unrelaxed
I9	2.47	0.51	Unrelaxed
I10	2.63	0.49	Relaxed
Over-all	2.46	0.51	Unrelaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

Data obtained on Table 11 exhibits the posttest BRS scores of the controlled group after the second session. With the 10 indicators observed, it could be noted that an overall mean of 2.46 was obtained. Thus, this was interpreted as *unrelaxed.*

It could be gleaned from the table amongst the 10 indicators analyzed, indicator 10 *My eyes and eyelids are closed and smooth still* obtained a 2.63 mean score which was interpreted as *relaxed*. However, indicator 3 *My body, chest, and hips are straight with no movement* garnered the lowest mean of 2.33 and interpreted as *unrelaxed*.

As noticed, data revealed that participants in the controlled group were unrelaxed. This resulted to what Guercio, Ferguson and McMorrow (2001) had claimed where they believed that long-term use of relaxation techniques such as guided imagery may involve classical conditioning hence, without exposure to it relaxed state could not be observed.

Table 12. Test of Difference Between the Posttest Results of the Two Groups After the Second Session

Variables	Control		Experimental		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
BRS	2.46	0.51	3.15	0.48	6.408	59	0.000

The post test revealed that there was a great difference with the participants' behavior after the session. In the controlled group, participants were taking an exam in Mathematics which also adds anxiety on them. While in the experimental group, some participants displayed behavior like slacking on their chair, some are trying to lay down o the floor. This particular behavior only signified that the level of the participants engagement in the activity is getting better after the first session.

Meanwhile, it was exhibited on the result of the posttest of the two groups after the second session that significant difference exists between the two groups on their behavioral relaxation. This is justified by the p-value, 0.000, which was lower than the alpha level of 0.05. Further, experimental group had a lower standard deviation (0.48) and higher mean (3.15) as compared to the control group 0.51 and 2.46 respectively. Regardless of the length of time and number of sessions, guided imagery is effective and has an advantageous effect on behavioural relaxation as paralleled to the works of Froeschle and Crews (2019). Additionally, Kemeny (2012), pointed out continuous exposure to guided imagery increases relaxation and releases stress related factors like burnout, fatigue and others.

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Table 13. Pretest BRS Scores of Controlled and Experimental Group During the Third Session

Indicators	control			experimental		
	mean	s.d.	interpretation	mean	s.d.	interpretation
I1	2.17	0.59	Unrelaxed	2.23	0.50	Unrelaxed
I2	2.40	0.50	Unrelaxed	2.40	0.62	Unrelaxed
I3	2.37	0.56	Unrelaxed	2.53	0.57	Relaxed
I4	2.33	0.61	Unrelaxed	2.53	0.51	Relaxed
I5	2.23	0.63	Unrelaxed	2.40	0.50	Unrelaxed
I6	2.33	0.55	Unrelaxed	2.50	0.51	Relaxed
I7	2.33	0.55	Unrelaxed	2.40	0.56	Unrelaxed
I8	2.30	0.47	Unrelaxed	2.57	0.57	Relaxed
I9	2.30	0.60	Unrelaxed	2.63	0.49	Relaxed
I10	2.07	0.37	Unrelaxed	2.30	0.47	Unrelaxed
Over-all	2.28	0.55	Unrelaxed	2.45	0.54	Unrelaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

Table 13 displays data obtained on both control and experimental groups as to the pretest result of the BRS during the third session. As per the control group, it could be gleaned from the table that the indicators gained an overall mean of 2.28 which was interpreted as *unrelaxed*. Indicator 10 My eyes and eyelids are closed and smooth gained the lowest mean of 2.07, verbally interpreted as *unrelaxed*. While, indicator 2 *My body, chest, ans hips are straight with no movement* garnered the highest mean of 2.40 and interpreted as unrelaxed.

As observed on the data on the experimental group, it could be noted that indicator 1 *My hands are rested in my lap* received a mean score of 2.23 and interpreted as *unrelaxed*. However, indicator 9 My breathing is slow and even obtained a mean score of 2.30, verbally interpreted as *unrelaxed*. With these results, undeniably, experimental group elicits *unrelaxed* behavior on the pretest of the BRS during the third session.

With the time interval and duration under consideration for this study, it could be noted that long-term relaxation should be practiced daily that would lead to classical conditioning where it increases self-efficacy in reaching a relaxed state (Guercio, Ferguson and McMorrow, 2001). As noted, more of the indicators were observed as relaxed for the experimental group for they were expose to the treatment while none on the control group were noted. This result was anchored on the claim of Poppen (1988) where the more comfortable the participants are with the process, the easier it would be used when provoked with situation.

Table 14. Test of Difference between the Pretest Results of Controlled and Experimental Group in the Third Session

Variables	Control		Experimental		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
BRS	2.28	0.55	2.45	0.54	0.001	59	0.073

On the pretest during the third session when control and experimental group was compared, the computed p-value (0.073) illustrated that no significant difference was observed between the two groups, this is due to that the p-value (2-tailed) is greater than the alpha level of 0.05. It was observed that before and at the end of the second session significant differences on the behavioral relaxation existed between the groups however a contradicting result was obtained at the start of the third session where no significant difference existed. These results may be attributed to the gap of treatment implementation due to interruption caused by school program. Brooks (2020) discussed the impact of interruption on the implementation of guided imagery. He elaborated that disruption of treatment and intervention creates a vanishing effect to participants. Additionally, he emphasized the importance and benefits of continuous and non-disruptive guided imagery implementation for a more long-lasting effect and positive outcome. Another factor that also contributes to different effect of guided imagery is the participants' characteristics where differences on psychological conditions, attitudes and behavior affect the impact of guided imagery.

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Table 15. *Posttest BRS Scores of the Experimental Group After Third Session*

Indicators	mean	s.d.	interpretation
I1	3.57	0.50	Overly Relaxed
I2	3.30	0.60	Relaxed
I3	3.13	0.43	Relaxed
I4	3.13	0.51	Relaxed
I5	3.30	0.47	Relaxed
I6	3.17	0.53	Relaxed
I7	3.27	0.45	Relaxed
I8	3.13	0.51	Relaxed
I9	3.23	0.43	Relaxed
I10	3.17	0.46	Relaxed
Over-all	3.24	0.50	Relaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

Presented in Table 15 were the posttest results of the BRS for the experimental group after the third session specifically, on the End State Imagery or the guided imagery. It could be noted that the indicators were exhibited, proven by the 3.24 mean score obtained and interpreted as relaxed.

Similarly, indicators 3 My body, chest and hips are straight with no movement, indicator 4 *My shoulder rounded and relaxed against the chair with tops in straight line* and indicator 8 *I keep quiet and make no noise* gained the lowest mean score of 3.13 which implies a *relaxed* behavior after the third session. The highest mean obtained was indicator 1 *My hands are rested in my lap*. as it gained the mean score of 3.57. This was interpreted as overly *relaxed*.

Dharmayana (2018) obtained the same findings as he utilized treatment in a group counseling with guide imagery techniques. It was found that the treatment was given to assist students in reducing their anxiety levels. Similarly, the relaxation response training has an effect to the participants' stress management. As noted by Benson and Klipper (2000), a person can relax by learning to consciously activate the relaxation response whenever the stress response is activated. As the repetitive exposure was observed in the experiment, the participants automatically activate their stress response.

Table 16. *Posttest BRS Scores of the Controlled Group After Third Session*

Indicators	mean	s.d.	interpretation
I1	2.23	0.63	Unrelaxed
I2	2.30	0.60	Unrelaxed
I3	2.27	0.52	Unrelaxed
I4	2.50	0.57	Relaxed
I5	2.27	0.69	Unrelaxed
I6	2.50	0.57	Relaxed
I7	2.30	0.53	Unrelaxed
I8	2.33	0.48	Unrelaxed
I9	2.33	0.66	Unrelaxed
I10	2.27	0.52	Unrelaxed
Over-all	2.33	0.58	Unrelaxed

Legends: 3.50 – 4.00 Overly relaxed, 2.50 – 3.49 Relaxed, 1. 50 – 2.49 Unrelaxed, 1.00 – 1.49 Overly Anxious

Table 16 exhibits data on the posttest of the BRS when measured on the controlled group during the third session. It could be gleaned from the table that the overall mean scores obtained was 2.33 and interpreted as *unrelaxed*.

With the consolidated data obtained, it could be observed that the lowest mean scores of 2.23 was noted on indicator 1 *My hands are rested in my lap* which was interpreted as *unrelaxed*. However, indicator 5 My head is resting back and facing straight forward. Indicator 6 *My mouth and teeth parted and lips slightly parted in the center* gained the highest mean score of 2.50, verbally interpreted as *relaxed*.

With no treatment utilized, it was evident that no changes in their behavioral response is expected. Guercio, Ferguson and McCorrow (2001) stated that long-term use of relaxation techniques such as guided imagery may involve classical conditioning leading to increased self-efficacy in reaching a relaxed state. Without exposure to the instructions and trainings, participants are still expected to be stressed when prompt with stressful situation.

Table 17. Test of Difference Between the Posttest Results of the Two Groups After the Third Session

Variables	Control		Experimental		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
BRS	2.33	0.58	3.24	0.50	7.472	59	0.000

Comparing the results of the posttest of the control and experimental groups, there is a significant difference between the two in terms of behavioral relaxation since 0.000 p-value (2-tailed) is computed which is lower than the alpha level of 0.05. Mean and standard deviation reveals that the experimental experiences a more relaxed behavior when paired to the control group. The result is supported by the work of Alam et al. (2016) where he found out that guide imagery decreases anxiety and tension. Moreover, physiological indicators of stress such as pulse rate and blood pressure also show significant decline indicating relaxation. Beizaee et al. (2018) further justified the result when his research illustrated the advantageous result of guided imagery in the reduction of anxiety among young adults and teenagers.

Table 18. Test of Difference Between Pretests of Experimental and Controlled Group After the 3 Sessions

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.928	6	0.155	3.163	0.000
Within Groups	8.468	173	0.049		
Total	9.396	179			

The comparison of the pretest results during the three sessions of the experimental and control groups shows no significant difference which was supported by the by p-value of 0.000 which was lower than the level of confidence (0.05). Marcora et al. (2019), highlighted stress and mental fatigue is often caused by high cognitive demands which in turn influences and affects a person's cognitive and physical performance. Further, he reiterated that when trying out treatment such as guided imagery in minimizing stress and cognitive overloads, it is reasonable to establish an equal footing of the participants, level of stress and other behavioral indicators. Setting such factors would lead to a more convincing and accurate effect of treatments.

Table 19. Test of Difference Between Series of Posttests of Experimental and Controlled Group After the 3 Sessions

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	35.104	6	5.851	87.328	0.000
Within Groups	11.525	173	0.067		
Total	46.629	179			

Two groups, the experimental and controlled group displayed difference with their behavior after the exposure of the grade 10 Quisumbing to the Guided Imagery. This indicated the effectiveness of guided imagery as a toll for relaxation and to ease anxiety.

There is a significant difference between the two groups when evaluated based on their posttest since the p-value (2-tailed) is lower than the alpha level of 0.05. It was sufficient to say that guided imagery created an effective and positive impact on the participants belonging to the experimental group. The study of Eskander, G. M.

Devins, J. Freeman et al. (2013), stressed out that guided imagery helps in the process of healing and often shows positive association on the relaxation and stress relief, it also adds wellbeing.

Further, their work showed the relaxation of body system's indicators such as breathing rate, sweating or perspiration, blink and heartbeat. Their work also highlights the importance of guided imagery as a treatment in the clinical setting for physical and emotional healing. On the study of M. De Couck and Y. Gidron (2013), they reported the ideal effect of guided imagery as it increases comfort to emotionally troubled individual. Other benefits of guided imagery on individuals includes higher self-confidence, higher motivation, increased attentional control and lower anxiety (Cox, 2015).

Table 20. Test of Difference Between Pretests and Posttests of Experimental and Controlled Group.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	47.836	12	3.986	81.347	0.000
Within Groups	16.994	347	0.049		
Total	64.830	359			

There is a significant difference between the two groups when evaluated based on their pretest - posttest since the p-value (2-tailed) is lower than the alpha level of 0.05. Past research reflects that guided imagery is effective in relieving perceived stress, developing and acquiring new skills, creating motivations and improving physiological responses (Bigham, McDannel, Luciano, & Salgado-Lopez, 2014). On the other hand, Kemeny et al. (2015) further intensified the claim as his work illustrated large decrease in mental health issues particularly anxiety and depression when a person is exposed to psychological treatments and interventions including guided imagery. Conducting such strategy and treatment relaxes many human aspects such as psychological, physical, cognitive and emotional (Froeschle &Crews 2015, Kemeny et al. 2015).

Results of the conducted experiment were statistically treated with mean, standard deviation, and T-test of difference for analysis and interpretation. The study yielded the following salient findings. [1] Comparing the results of the posttest of the control and experimental groups, there is a significant difference between the two in terms of behavioral relaxation. Mean and standard deviation reveals that the experimental group experienced a more relaxed behavior when paired to the control group. [2] The comparison of the pretest results during the three sessions of the experimental and control groups shows no significant difference. Both groups were not exposed to any behavioral relaxation session/activity. [3] There is a significant difference between the two groups when evaluated based on their posttest. It was sufficient to say that guided imagery created an effective and positive impact on the participants belonging to the experimental group. [4] There is a significant difference between the two groups when evaluated based on their pretest – posttest. Past research reflect that guided imagery is effective in relieving perceived stress, developing and acquiring new skills, creating motivations and improving physiological responses

Conclusion

Based on the findings of the study the following conclusions were drawn. [1] There is no significant difference between the series of pretest of the controlled group and the experimental group; therefore, the null hypothesis posited in the study is sustained. [2] There is significant difference between the series of post-tests of the controlled group and the experimental group due to the exposure of the experimental group to the three guided imagery treatments; therefore, the null hypothesis posited in the study is not sustained. [3] There is a significant difference between the pretest and post-test of the control group and experimental group. therefore, the null hypothesis posited in the study is not sustained.

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