



## Comparative Analysis of Virtual Reality Versus Progressive Resistive Exercises in Improving Arm function of Patients With Hemiplegic in Bacoar, Cavite

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### Abstract:

Virtual Reality (gaming console) and Progressive Resistive Exercises (PREs) have emerged as recent treatment approaches in stroke rehabilitation. In particular, the Game console is used to aid in portraying and calculating body positioning, visual perception, balance, and gross motor skills while PREs is a strengthening technique that basically used by the Physical Therapist in treating impairments particularly muscle weakness. PRE's can be administered via different forms; the study utilized PNF D1 Flexion, Extension patterns through resistive bands. The principle states to improve muscle performance and functionality that it should exceed the metabolic capacity of the muscle and challenged to perform at a level greater than to which it is accustomed. To improve the arm function of patients with Hemiplegic by using new dimensional approach. Quasi Experimental Group Pre and posttest Design is used in the study. Retrospectively, all the post-stroke patients who are at the age range of 40-70 years old were reviewed with selection criteria and been oriented with informed

consent. Fifteen participants were randomly array into three variable groups, the two groups will be distributed to the experimental group and that will represents the Nintendo Wii and the PREs group. The remaining group will represent the control group which will undergo stretching technique and range of motion exercises (ROM) in the upper extremity. They were subjected into 15 treatment sessions and assessed two times by using the Modified Fugl-Meyer Assessment of Physical Performance for the functional mobility of the affected upper extremity of the post-stroke patients. Assessment was imposed before starting our first the treatment session and after the final session. The Modified Fugl-Meyer Assessment of Physical Performance demonstrates that Virtual Reality has the highest mean scores among all the interventions done with a  $M=55.80$ ,  $SD=2.168$  followed by the PRE's ( $M=48.20$ ,  $SD=6.340$ ), and lastly the control group which is the lowest post-test mean score ( $M=40$ ,  $SD=1.581$ ). There is a significant difference on the post-test scores of the PRE's as compared to Virtual Gaming Console. With the computed significant value of  $p=0.035$  suggests to accept the Null hypothesis. This shows evidence that Gaming Console is a far more effective treatment than PREs for post-stroke patients in improving the mobility of the affected upper extremity.

### Biography:

Er D Petil Jr is the Associate Professor III in Physical Therapy and Lecturer in Manila Central University, St. Dominic College of Asia, New Era University. He has completed his Master's degree in Special Education and Doctor of Philosophy at the University of The Philippines.