

**RELATIONSHIP OF PUPILS' LEARNING STYLES AND TEACHERS'  
TEACHING STRATEGIES TO THE SCIENCE AND HEALTH  
ACHIEVEMENT OF SELECTED PRIVATE INTERMEDIATE  
PUPILS IN THE PROVINCE OF CAVITE: BASIS FOR  
PROPOSED ENHANCED TEACHING STRATEGIES  
FOR SCIENCE TEACHERS**



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**LETECIA TADULAN MC INTOSH**

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## ABSTRACT

Title of the Research : **Relationship of Pupils' Learning Styles and Teachers' Teaching Strategies to the Science and Health Achievement of Selected Private Intermediate Pupils in the Province of Cavite: Basis for Proposed Enhanced Teaching Strategies for Science Teachers**

Author : **LETECIA TADULAN MC INTOSH**

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### STATEMENT OF THE PROBLEM

The descriptive design of research was conducted with the primary aim of determining the relationship of pupils' learning styles and teachers' teaching strategies to the Science and Health achievement of the selected private intermediate pupils in the province of Cavite as basis for proposed enhanced teaching strategies for Science teachers.

The Dunn and Dunn's learning style theory, as cited by Tenedero (1998), was the basis of the theoretical/conceptual framework of the study. The validated *Learning Style Inventory in Science and Health* developed by Atendido (2003), and the *self-made questionnaire* for Science and Health

teachers were the instruments used in this study. With the written permission of the author of the Learning Style Inventory (LSI), a survey was conducted to the 589 selected private intermediate pupils in Science and Health and 51 intermediate Science and Health teachers during the school year 2007-2008. Multi-stage random sampling was utilized to get the total number of respondents.

The pupils' grades in the first and second grading periods were recorded and the general grade point average (GPA) was computed. The statistical tools used for the analysis and interprets of the data were the frequency distribution, percentage, mean, standard deviation, Chi-square, t-Test for independent samples, and ANOVA.

Findings revealed that there were more female (55%) intermediate pupils who were 11–12 years old and above (68%) with parents whose family income belonged to 20,001 to 30,000 pesos (32%) than male. Likewise, majority of the intermediate Science and Health teachers were females (90%) who were above 35 years old (45%) with bachelor's degree (61%) only and have taught Science and Health for not more than 10 years (41%). The most dominant pupils' learning style was kinesthetic (32%) in *perceptual modalities*, analytic (90%) in *information processing* and extrovert (82%) in *personality pattern*. Similarly, the most dominant teaching strategies was oral/written report (33%). The academic achievements of the intermediate pupils obtained a mean of 88.63 and 4.77 standard deviation.

Chi-square was used to compare the relationship between the pupils' learning styles according to: (a) *age* ( $\chi^2 = 0.918$  and  $Pv = 0.821$ ) in perceptual modalities; ( $\chi^2 = 0.604$  and  $Pv = 0.437$ ) in information processing; and ( $\chi^2 = 0.934$  and  $Pv = 0.334$ ) in personality pattern; (b) *gender* ( $\chi^2 = 1.410$  and  $Pv = 0.703$ ) in perceptual modalities; ( $\chi^2 = 0.805$  and  $Pv = 0.370$ ) in information processing; and ( $\chi^2 = 0.001$  and  $Pv = 0.975$ ) in personality pattern; and (c) *family income* ( $\chi^2 = 13.987$  and  $Pv = 0.123$ ) as to perceptual modalities; ( $\chi^2 = 2.011$  and  $Pv = 0.570$ ) as to information processing; and ( $\chi^2 = 7.004$  and  $Pv = 0.072$ ) as to personality pattern at 0.05 level of significance.

For teachers, there was no significant relation between the teaching strategies according to: (a) *age* ( $\chi^2 = 24.186$  and  $Pv = 0.019$ ); (b) *gender* ( $\chi^2 = 6.269$  and  $Pv = 0.394$ ); and (c) *educational attainment* ( $\chi^2 = 16.967$  and  $Pv = 0.009$ ) at 0.05 level of significance. However, *the number of years teaching Science and Health* ( $\chi^2 = 34.064$  and  $Pv = 0.001$ ) and *academic achievement* (F-ratio of 8.233 and p-value of  $0.<001$ ) were significantly related to teaching strategies at 0.05 level of significance.

There was no significant relationship between the pupils' learning styles and academic achievement: (a) *perceptual modalities* styles (F-ratio of 0.791 and  $Pv = 0.499$ ); (b) *information processing* (t-Test of 0.762 and  $Pv = 0.446$ ); and (c) *personality pattern* (t-Test of 0.24 and  $Pv = 0.833$ ) at 0.05 level of significance.

Pupils' learning styles and teaching strategies were not significantly related based on Chi-square test as to *perceptual modalities* ( $\chi^2 = 10.1215$  and  $P_v = 0.528$ ); *information processing* ( $\chi^2 = 6.797$  and  $P_v = 0.340$ ) and *personality pattern* ( $\chi^2 = 2.212$  and  $P_v = 0.899$ ) at 0.05 level of significance.

Based on the findings, the pupils' learning styles and teachers' teaching strategies were not significantly related to demographic variables (pupils' age, gender, and family income and teachers' age, gender, and educational attainment). But the number of years teaching Science and Health and academic achievement were significantly related to teacher's teaching strategies. Recommendations of the study include the following:

- 1) Teachers are encouraged to incorporate more kinesthetic activities in the lesson to maximize students' potentials;
- 2) School administrators should motivate teachers to pursue graduate studies;
- 3) Seminar/workshops on learning styles and teaching strategies should be provided to teachers for them to become aware of their students learning strengths and use appropriate teaching strategies to enhance learning;
- 4) Future researchers should conduct a similar study in the public elementary level using different variables; and
- 5) For all teacher education institutions, topics on learning styles and teaching strategies should be included in the seminar-workshop for the incoming student-teachers as a refresher for them before they will be given teaching assignment with their cooperating teachers.

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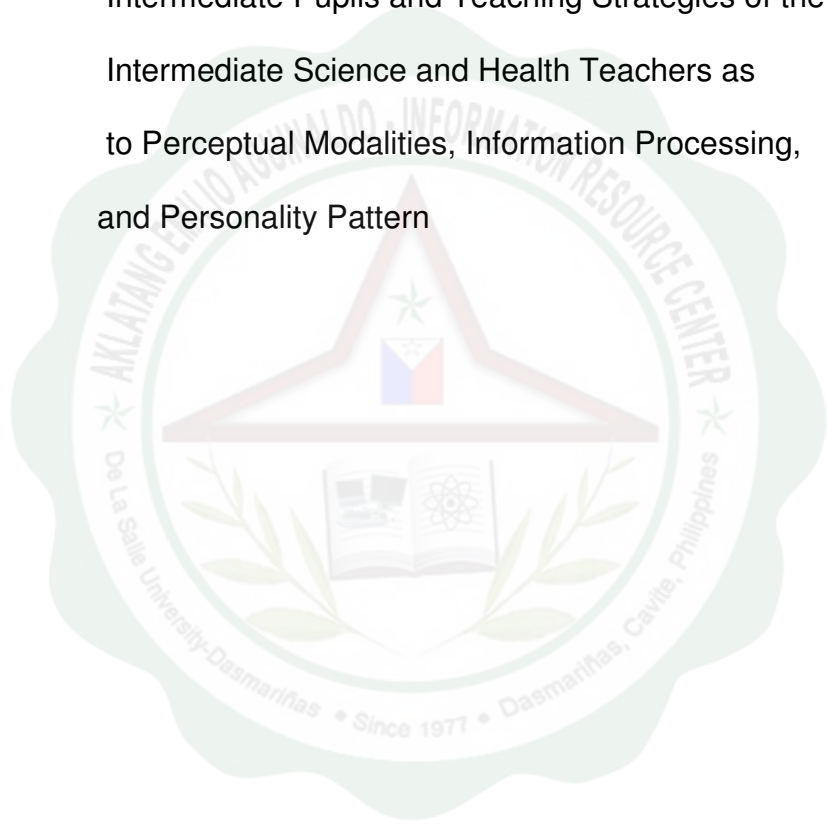
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