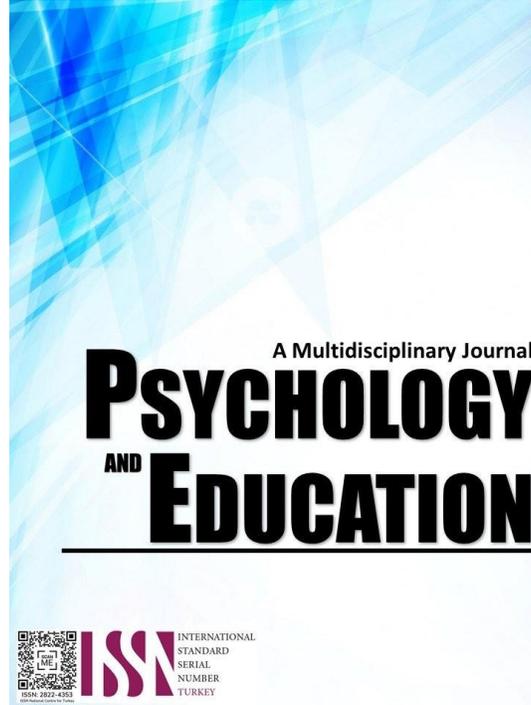


# **DEVELOP MORAL THROUGH COMMUNITY ENGAGEMENT (DEMCE): IT'S EFFECT ON THE GRADE 10 LEARNERS IN SCIENCE**



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## Develop Moral through Community Engagement (DeMCE): It's effect on the Grade 10 learners in Science

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### Abstract

This study aims to improve the academic performance of selected Grade 10 students in Science through the utilization of Develop Moral through Community Engagement (DeMCE). To address learners and parents attitudes and paradigm on failure grade, and in order to deal with the personal and societal development of learners, Project DeMCE has been conceptualized. Operation BISITA, Operation GoNi (Good Boy, Nice Girl– Personal development) and Operation L.O.O. (Law and Order- Societal development) are banner activities of DeMCE. The study utilized the quasi experimental design. The experimental group was exposed to utilization of DeMCE. Based on the analysis of the data, the following results are found: Pre assessment scores of students in Science 10 needs improvement since the obtained mean score was less than 50%, after the implementation the Post assessment score was improved. Relative to mean pre- and post assessment of students in Science 10, there is significant difference as reflected to gathered data. This implied that DeMCE was effective in improving learners' academic performance in Science 10. Therefore following recommendations are offered: (1) Principals may encourage teachers to be innovative by experimenting new intervention / innovation. (2) Teachers may administer pre-assessment before applying any intervention to determine the degree of improvement in the students' performance after implementation. (3) Students may accept the challenges of innovation such as Project DeMCE, and be willing to subject themselves to the pre and post assessment administer by the teacher as basis for project effectiveness.

**Keywords:** *moral development, community engagement, improved academic performance*

### Introduction

Dolores Macasaet National High School is a social institution responsible for developing youth of Candelaria, Quezon to be ready in tertiary level of education. This school showcases different programs, projects and activities to cultivate learners knowledge, skills and values. Despite of systematic planning and implementation of different programs, school is still experiencing problems such low level of learners' performance and increasing dropout rate. Sadly, parents and learners have become comfortable and lenient with these matters. Other learners may have a strong reason for dropping out, but other reason must dealt with.

Based on the data gathered from the school Mean Percentage Score, Science 10 during first grading period of 2023-2024 was 68.61 which is less than the 75. Furthermore, 13 out of 390 or 3.33% of the total enrolled learners of Grade 10 was reported as learners-at-risk of failing (LARFs). They are subject for intervention, not only in Science but also in other subjects such as Math, AP, English and even ESP.

Grade 10 advisers and teachers have seen the need to re-orient the parents and the learners on the importance of education especially attendance and why dropping out is never a good choice, and never a good attitude whenever their children experience failing grades and hardships in everyday learning.

To address learners and parents attitudes and paradigm on failure grade, and in order to deal with the personal and societal development of learners, Program DeMCE (Develop Moral through Community Engagement) has been conceptualized.

This Program is founded on Kohlberg's Theory of Moral Development which has three stages, the pre-conventional, the conventional and post conventional. The program will use the conventional stage of moral development. This project aims to develop moral of students as vital for their educational development with the engagement of community.

Readings and related literature on important concepts particularly about moral and scientific attitudes, and academic performance had been reviewed to provide the researcher background regarding the aspects of the problem.

Some people believe that the teachers' primary role is to teach learners to behave and to judge what is right and wrong. But on the other hand, teachers play the role of second parents to the learners. It is they who correct the learners if something went wrong like what they do on their own children. The teachers also play significant role in shaping the life of the learners under their care, including moral development.

Moral Attitude is a generalized tendency to think or act in a certain way in respect of some object or situation, often accompanied by feeling. It is a learned predisposition to respond in a consistent manner with a respect to a given object. Every attitude has three components that are represented in what is called the ABC model of attitudes: A for affective, B for behavioral and C for cognitive (Crowell, 2018).

Crowell elaborates that affective component is the emotional or feeling segment of an attitude. It deals with feelings or emotions that

are brought to the surface about something such as fear of hate. Behavioral component of an attitude consists of a person's tendencies to behave in a particular way toward an object. It refers to that part of attitude which reflects the intention or the way we act or behave. Cognitive component of attitudes refers to the beliefs, thoughts and attributes that could be associated with an object. It is the opinion or belief segment of an attitude. It refers that part of attitude which is related in general knowledge of a person.

Scientific Attitudes. The methods and skills used by scientists are intimately connected to a set of attitudes common in the practice of science. A scientific attitude is a disposition to act in a certain way or demonstration of feelings and/or thoughts. Some attitudes such as honesty would be expected in any human endeavor, but other attitudes such as tolerance of uncertainty are more characteristics of scientists. Scientific attitudes are different from attitudes towards science (Maranan, 2017).

Because of existing problems on students' moral attitude, academic performance are affected. Academic achievement is the extent to which a student, teacher or institution has attained their educational goal. It is commonly measured through examinations or assessment (DepEd Order No. 31, s. 2012).

The assessment process is holistic, with emphasis on the formative or developmental purpose of quality assurance in student learning. It is also standard-based as it seeks to ensure that teachers will teach according to the set standards of the department. The students' attainment of standards in terms of content and performance is, therefore, critical evidence of learning (DepEd Order No.8, s. 2015).

Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Programs stating that assessment in the classroom is aimed at helping students perform well in relation to the learning standard. Originally academic performance or achievement in Science follows certain standard or criteria- 40% for Written works, 40% for Performance task and 20% for Periodical test

Swame (2018) conducted a study entitled "A Study of Scientific Attitude Among the Students of the Secondary School". Among the findings of the study are: (1) The scientific attitude of grade 8, 9, 10 students is at average. (2) There is no significant difference in the level of scientific attitude of boys and girls. (3) There is no significant difference in the level of scientific attitude of grade 8 & grade 9 students. (4) There is no significant difference in the level of scientific attitude of grade 9 & 10 students. (5) The students got below average scores in readiness to change the decision and seeking to adopt different planned procedures in solving the problem. Lastly, (6) students did not get high scores in any of 9 components of scientific attitude.

From the aforementioned literature and studies, insights and information were provided in relation to moral and scientific attitudes, and academic performance in Science 10 which was the main variables of the study.

### Research Questions

The general purpose of this study is to improve the academic performance of selected Grade 10 students in Science through the utilization of DeMCE. Specifically, it seeks to answer the following questions:

1. What is the level of academic performance of Grade10 students in Science before the utilization of DeMCE?
2. What is the level of academic performance of Grade10 students in Science after the utilization of DeMCE?
3. Is there significant difference between the academic performance of Grade10 students in Science, before and after the utilization of DeMCE?

### Proposed Innovation, Intervention and Strategy

This Project is founded on Kohlberg's Theory of Moral Development which has three stages, the pre-conventional, the conventional and post conventional. The program will use the conventional stage of moral development. This project aims to develop moral of students as vital for their educational development with the engagement of community.

The DeMCE will be utilized within the first to fourth grading period. Operation BISITA (home visitation) will last for two weeks, Operation GoNi (Good Boy, Nice Girl- Personal development) is a learning centered counselling that last for another two weeks, and Operation L.O.O. (Law and Order- Societal development) is a symposium with learners, parents and other stakeholder will be accomplished within two weeks. A minimum of six month was required to finish the data collection for this action research.

Before the Operation BISITA, researcher with the help of Grade 10 advisers analyzed school data to identify the learners-at-risk of failing (LARFs) in Grade 10.

The accomplished learners master list was the participant in this Project DeMCE, and target of home visitation. This activity aims to understand learners current situation and reason of being LARF.

The researcher and other advisers are responsible for the home visitation process within two weeks time frame. After the home visit, researcher will have a clear lens of learners' situation and reason of being LARF, this information will be the basis of Operation GoNi (Good Boy, Nice Girl- Personal development), a learning centered counselling that last for another two weeks.

After the counselling session there will be a Operation L.O.O. (Law and Order- Societal development), this a symposium with learners, parents and other stakeholder will aims to involve community in development of learners moral character.

## Methodology

### Respondents

The participants of the study will consist of 30 students from Grade 10 Science at Dolores Macasaet National High School. They will be chosen purposively since they are handled by the teacher researcher. Aside from being handled by the researcher, these students are declared Learners-at-risk of failing (LARFs) as reflected in school report during first grading period.

To ensure the rights of the respondents of the study, several ethical considerations will be employed by the researchers to wit: anonymity, confidentiality, informed consent, and voluntary participation will be considered.

The first one is anonymity which means that the participants remain anonymous throughout the study even to the researchers themselves. No identifying information about the participants will be revealed in any forms of communication and written output of this paper.

The next consideration is confidentiality. In this, participants will be assured that identifying information will not be made available to anyone who is not directly involved in the study. In addition to these, informed consent will also be considered. Prospective research participants will be fully informed about the procedures and risks involved in the research.

Letter of permission will be given to them before answering the questionnaires. Last on the list is voluntary participation in that no participant will be coercive to participate in the research undertaking.

### Instrument

The utilization of DeMCE will be completed at first to fourth grading period of school year 2023-2024. The researcher will use parallel pre-post test / diagnostic and summative test as instruments to identify the students academic performance in Science 10. Relative to impact, paired t-test will be applied to measure if there is a significant difference between the academic performance before and after the utilization of DeMCE. The test materials (pre-post test) will be validated by school checking committee (Subject coordinator, Chief adviser and one Science teacher).

Before the conduct of the study, the researcher will propose activities namely; Operation BISITA, Operation GoNi (Good Boy, Nice Girl– Personal development) and Operation L.O.O. (Law and Order- Societal development) as banner activities of DeMCE. After the approval of proposal, the researcher will seek the consent of the school head of Dolores Macasaet National High School together with the parents of the students participants.

The procedure of collecting data was performed as follows: Before utilization, researcher will conduct pre-test / diagnostic test, to identify the learners level of academic performance before the intervention. Consolidated academic performance / score will be analyzed before utilizing DeMCE. During the utilization of DeMCE, researcher with other project committee will conduct the proposed activities; Operation BISITA, Operation GoNi and Operation L.O.O. After utilization, researcher will conduct post-test / summative test, to identify the learners level of academic performance after the intervention. Consolidated academic performance / score will analyze after utilizing DeMCE to test the hypothesis.

### Data Analysis Plan

This study is limited to its objective, to identify significant difference between the academic performance of Grade 10 students in Science before and after the utilization of DeMCE. It will utilize the quasi-experimental design. The respondents of the study will consist of 30 students from Grade 10 Science at Dolores Macasaet National High School. The researcher will use parallel pre-post test / diagnostic and summative test as instrument to identify the students academic performance in Science 10.

The utilization of DeMCE will be done at third to fourth grading period of school year 2023-2024. The researcher will use weighted mean to measure the academic performance of Grade 10 students in Science and paired t-test will apply to measure if there is a significant difference between the academic performance, before and after the utilization of DeMCE.

## Results and Discussion

This part presents the data gathered from the pre- and post assessment scores of the respondents before and after the implementation of DeMCE. The data are analyzed and interpreted to answer the research problem.

Table 1. *Fourth Quarter Pre-test Mean Score of Students in Science 10*

| <i>Indicator</i>  | <i>Mean</i> | <i>Standard Deviation</i> |
|---|-------------|---------------------------|
| Pre Assessment / Diagnostic test Mean Score before the utilization of DeMCE | 16.933      | 3.463                     |

Based on the table above, the mean score of 16.933 was even below the 50% mean percentage score of 50 item test. This shows that the experimental group needs improvement in their academic performance before the utilization of DeMCE. It is parallel to the result of the study of Aquino, J. (2017), the mean pretest scores of Grade 4, 5 and 6 pupils under the control group are: 8.00, 11.15, and 11.35,

respectively. While, on the experimental group the mean pretest scores in the same intermediate grade levels are: 7.20, 10.60 and 10.75. Meanwhile, the over-all mean of the pretest in both control and experimental group are: 10.17 and 9.52. It was also even below the 50% mean percentage score of the given 40 item test.

Table 2. *Fourth Quarter Post-test Mean Score of Students in Science 10*

| Indicator  | Mean   | Standard Deviation |
|--|--------|--------------------|
| Post Assessment / Summative test Mean Score after the utilization of DeMCE | 26.533 | 5.934              |

Based on the table above, the mean score of 26.533 was above the 50% mean percentage score of 50 item test. This shows that the experimental group improved in their academic performance after the utilization of DeMCE. It is parallel to the result of Manalastas, A (2023) study, the post test result was enhanced, from pre-test result of 54.25 to 81.50, it implies that 7E's Inquiry- Based Learning as strategy improved learners academic performance.

Table 3. *Test of difference in the pre-test and post-test score*

| Indicator            | Mean before implementation of DeMCE | Mean after implementation of DeMCE | t.test | t-value | p-value | Remarks     |
|----------------------|-------------------------------------|------------------------------------|--------|---------|---------|-------------|
| Academic performance | 16.933                              | 26.533                             | -      | 2.045   | 0.000   | Significant |
|                      |                                     |                                    | 12.989 |         |         |             |

Legend:  $p < .05$  Significant  $p > .05$  Not Significant

The table shows the test of difference in the pretest and posttest scores of the students in Science 10 with a t.test computed value of -12.989 and a p-value of 0.000, this shows that there is a significant difference between the pretest and posttest mean scores of the students. This implies that the students had enhanced their academic performance in Science 10 after implementing DeMCE.

The enhanced academic performance in Science 10 after implementing DeMCE is parallel to key finding of Lickona, T. (1991), found out that character education programs, which focus on moral values and ethical decision-making, have been linked to improved academic outcomes. Students who learn and internalize moral principles tend to demonstrate better academic behavior.

The result of existing study addressed the recommendation of Simba, N., et al (2016), stated to recommend enhancement of discipline among the pupils for improvement of their academic performance. This recommendation was based on study result; 46 (5.6%), 214 (26.2%), 413 (50.6%) and 144 (17.6%) of the pupils had low, moderate, high, and very high discipline respectively. Also, discipline related positively with, and accounted for 23% of variance in the pupils' academic performance.

## Conclusions

There is significant difference in the mean pre test and post test in Science 10. Thus, DeMCE was effective in improving learners' academic performance during fourth quarter period of Science 10 academic year 2023-2024.

Based on the conclusions of the study, the following recommendations are offered:

Principals may encourage teachers to be innovative by experimenting new intervention / innovation.

Teachers may administer pre-assessment before applying any intervention to determine the degree of improvement in the students' performance after implementation.

Students may accept the challenges of innovation such as Project DeMCE, and be willing to subject themselves to the pre and post assessment administer by the teacher as basis for project effectiveness

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